

THE DEVELOPMENT
OF
INDUSTRIAL EDUCATION
IN MICHIGAN

DALTON



Dedicated to the memory of

K. G. SMITH

State Supervisor of Trade Industrial Education
from 1920 to 1938, who died on September 11, 1940.

THE DEVELOPMENT
OF
INDUSTRIAL EDUCATION
IN MICHIGAN

FRANK W. DALTON, Ph.D.

A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in the University of Michigan.

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PREFACE

From the dawn of history there have been two kinds of education--the education of the manual laborer through practice with tools, implements, and machines in shop, field, ship, or mine, and the education of non-manual and members of the leisure class in some kind of school, largely with the aid of books.

For centuries these were widely separated and formed, respectively, part of the life experience of quite distinct social classes. With the development of civilization the manual-labor class came gradually to feel the necessity for both kinds of education, but these long remained as different in aims and content as before.

A striking feature of the educational work of the present is the combination of these two hitherto independent kinds of instruction or training. The handwork and training of the laborer have become part of the procedure of the school, earlier concerned almost exclusively with the use of books. On the other hand, systematic instruction according to a logically organized program, and involving frequently the use of books, has become part of the vocational preparation of the hand worker.

Two decades have now passed, and we are entering upon the third decade of experience with the Smith-Hughes law, which some have called the most significant educational legislation ever adopted by any nation. It seems fitting that we scan anew the underlying purposes for which the law was passed, that we cast an appraising eye over the accomplishments of the past twenty years, and from the vantage point of what has been done be ready for what lies ahead.

Industrial education has ceased to be a mere proposal or even a movement; it has become a fact in American education and in our public schools. One may safely predict that industrial education in some form will occupy a larger place in American education in the future than it has occupied in the past.

The preparation of this dissertation was undertaken for the purpose of providing students and teachers with a brief outline of the development of industrial education in

general and in particular to acquaint them with the progress of that type of education in the State of Michigan. It is the writer's conviction that a historical background of the development of industrial education is essential to an adequate understanding of the present-day problems of public education, for only in the light of the origin and growth of the varied educational activities can these numerous educational problems be viewed sympathetically and without bias by the teacher, the school administrator, or the public. The history of education shows how functions of certain social institutions have shifted and how the support and control of education have changed from simple and local arrangements to those that are now somewhat centralized and complex.

The writer has attempted to present chronologically as far as possible the development of industrial education in Michigan, to bring into the picture those elements that particularly affected the progress of such education, and briefly to trace the evolution of federal cooperation in this type of education. This has been done in the belief that much of the data regarding the progress of industrial education in Michigan was not readily available to many who desired it and that in some cases certain information would soon be impossible to obtain.

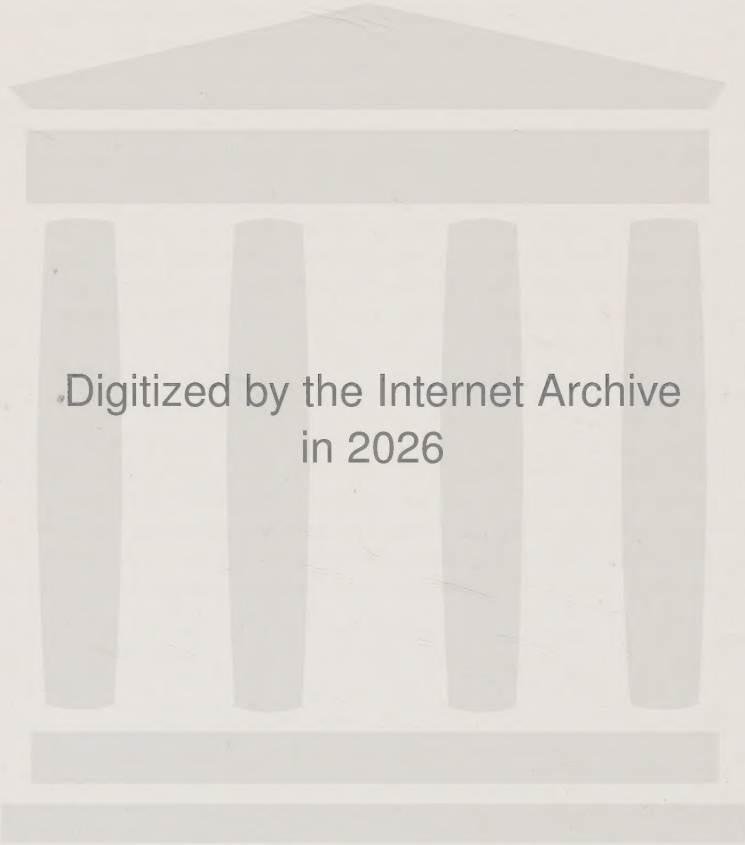
No attempt has been made to discuss the private agencies that admittedly have made substantial contributions to the development of industrial education in Michigan. The General Motors Institute of Technology in Flint and the Henry Ford Trade School in Detroit are examples of privately controlled educational organizations which have maintained high standards of attainment in the field of industrial education in this state.

Every effort has been made to secure material from original sources, especially such data as concerns the development within the state. Many pioneers in the field have been interviewed and the history of the development in particular communities has been the result of painstaking effort on the part of the person responsible for the beginning of industrial education in that community.

Effort has been made throughout the study to present phases of progress in industrial education without attempting to philosophize upon the effects of industrial education on society or the effect of federal legislation upon education or to point out in any way future needs or

possibilities. The principal aim has been to bring together facts which appear to be significant for the development of industrial education in Michigan.

Suggested readings at the end of each chapter are presented in preference to a general bibliography.



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The inclusion of much factual material in this dissertation was made possible by the extended cooperation of the city directors and supervisors of industrial and allied types of education and of superintendents of schools, to whom the author wishes to express his appreciation.

To K. G. Smith, State Supervisor of Industrial Education, who has permitted the use of his office records for certain statistics included in the text, the writer acknowledges indebtedness.

During the planning and prosecution of the work the writer sought and received the advice and counsel of Dr. George E. Myers and Professor Thomas Diamond, of the Industrial Education Department of the University of Michigan. To them the writer expresses his special appreciation for their valued and painstaking criticisms, and their continued encouragement.

Indebtedness is felt to numerous authors and publishers whose writings have been referred to and in a few instances briefly quoted as indicated specifically in the text.

And to Lillian M. Dalton, whose reading and typing of manuscript has been of much material help, goes the author's thanks.

F.W.D.

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Chapter I

INTRODUCTION

EARLY DEVELOPMENTS IN INDUSTRIAL EDUCATION

An extensive study of the literature dealing with the history of education has failed to reveal a period in which the problems of industrial education were not present. However, while a few examples of the need for this type of education appear in early Greek and Roman history and during the Middle Ages, the earliest definite suggestions that it should be a part of school education for youth date from the Renaissance.

Religious and social reformers of the sixteenth century proposed educational schemes which included curricula more or less industrial in character. These leaders were idealists but they were followed, in the early part of the seventeenth century, by realists whose revolt against the humanistic formalism of the time led to the generally accepted philosophy that industrial education should be regarded as the preparation of young people for everyday life.

Comenius in his "Great Didactic" advocated industrial education in the schools and seems to have anticipated in the seventeenth century many of the more important educational reforms introduced during the succeeding two hundred years.¹ It was in this century, too, that Germany and England both began to display an interest in this type of education and began to lay greater emphasis upon the value of mechanical skill and knowledge.

In the eighteenth century Franke introduced manual work into the program of his Paedagogium at Halle. In the same city and at about the same time an industrial school was started by Simler. This school was intended to meet the needs of the working classes and provided instruction in mathematics and other subjects related to the job of the worker.

Education of the Poor. Among the earliest institutions to afford systematic training in the industries were

¹J. A. Comenius, The Great Didactic, (London 1896) Ch. XXVIII, Section 12.

the schools established for the children of the indigent. Such schools developed in England in the sixteenth and seventeenth centuries. In 1591 a knitting school was established at Lincoln, in 1596 one at Leicester, and in 1628 one for lace-making at Great Marlow. Fellenburg, a contemporary and co-worker of Pestalozzi, developed a plan of combining labor and learning in his schools for the poor at Hofwyl and Mey-Kirch in Switzerland. This was copied by numerous schools for orphans and reformatory schools in Europe and America, thereby exerting a direct influence upon industrial education as developed later. Fellenburg's prime aim seems to have been that of improving human life through modification of existing conditions. While he gave some attention to agriculture and the handicrafts for the aristocratic youth, industrial and particularly agricultural labor constituted the chief means of vocational education for the lower classes.

Fellenburg's work had a marked influence upon the development of industrial schools for poor children in Germany, France, England and Belgium. One of the outstanding institutions of this kind was known as the "Rauhe Haus," established by Wichern in Horn, near Hamburg, in 1883. The pupils in this institution were required to participate in domestic and field work and through the practice of the handicrafts to supply such clothing, furniture and other equipment as was needed by the institution. Thus shops were required for many different trades including wool spinning, shoe making, tailoring, and cabinet making. Even the school buildings were erected by those in attendance.

In England the Fellenburg movement seems to have brought about a revival of interest in the establishment of "schools of industry."² A "Proposal for the Establishment of Village Schools of Industry," published in London in 1831, recommends that besides gardening, the children should be taught such trades as local and other circumstances might render desirable: masonry, shoe making, tailor's, carpenter's, blacksmith's work, netting, knitting, etc. It was believed that some of these might form direct subjects of instruction.³

²Emanuel Fellenburg, Darstellung der Armen-Erziehungen stalt in Hofwyl (Aaran, 1813) p. 8, Quoted by Resseman, op. cit., p. 38.

³American Annals of Education, January, 1932, p. 44. Reprint.

Even earlier the establishment of similar schools in the United States was suggested as indicated by an editorial note in the Academician (Vol. I, p. 327, New York, 1819). John Griscom advocated in his A Year In Europe that the Fellenburg plan be adopted in this country.⁴ His proposed adaptation was carried out in the establishment of houses of industry and also to a considerable extent in the organization of the American Labor Schools.⁵ These schools, more or less self-supporting as industrial and vocational institutions, persist for the most part as schools for abandoned, orphaned or delinquent children.

Industrial Revolution. Perhaps the greatest stimulus to development of industrial education came as a result of the early industrial education of the laboring classes which became necessary during the Industrial Revolution.

This period falls into two fairly distinct movements as far as the history of industrial education is concerned. In England during the last quarter of the eighteenth century provision was made for training and instruction of an industrial nature primarily for the purpose of enabling the laboring groups to adjust themselves to the conditions brought about by the changing conditions in manufacturing.⁶ The latter movement did not get under way until the last quarter of the nineteenth century and aimed at aiding England in the international struggle for world trade. The educational reformers of the early period of the Industrial Revolution in the United States, Bell, in his school at Swanage, and Owen and Maclure in their school at New Harmony, Indiana,⁷ made industrial training a feature of the education of the workers in their colonies. This led to the establishment of mechanic institutes, lyceums, and other organizations designed for the mutual improvement of the members. These schools probably influenced the aims and general character of industrial education in the schools that followed.

The Decline of Apprenticeship. The gradual decline of apprenticeship under the influence of the Industrial Revolution and the ever increasing international competition caused England and France to follow the tendency of Germany

⁴John Griscom, A Year In Europe, Vol. I, p. 399.

⁵Elmer E. Brown, "The Making Of Our Middle Schools," New York, 1907, p. 305.

⁶Ware, Educational Foundations of Trade and Industry, New York, 1901, p. 17-18.

⁷New Harmony Gazette, August 16, 1826, p. 373.

to make more adequate provisions for the education of all classes of industrial workers. In 1870 Massachusetts provided by law for the industrial art training of the working classes.⁸ This legislation marks the beginning of the effort on the part of school authorities to adapt the American public school program to the vocational needs of the industrial classes.

EARLY INDUSTRIAL EDUCATION IN THE UNITED STATES

It has been suggested that the examples of industrial education that occurred during the seventeenth and early eighteenth centuries in America were comparable side currents of the movement then running its course in England and on the continent. Isolated examples of school education in the industries occur toward the close of the eighteenth century in American schools and colleges.

The Massachusetts' Ordinance of 1642, the Virginia Statute of 1646, Pennsylvania's Frame of Government of 1682 and the Duke of York's legislation of 1676 regarding American possessions were not concerned with the schools but rather with the apprenticeship system and were adaptations of English laws and customs to colonial conditions. In Cokesburg College at Abington, Maryland, when provision was made for training along certain industrial lines as a form of recreation, as indicated by the following quotation from the American Quarterly Register (Vol. 4, p. 20): "The interval till seven was allowed for recreation, such as gardening, walking, riding, and bathing, and within doors the carpenter's, joiner's, cabinet-maker's and turner's business."

In 1800 DuPont, a French economist, drew up, at the request of Jefferson, a plan of education for the United States which gave handwork with tools a place in the schools as a part of the recreational program. However, he advocated the teaching of the Mechanic Arts.

European influences continued to dominate the character of the provisions for systematic education in the industries of the United States throughout much of the nineteenth century. Such American institutions as the Franklin Institute at Philadelphia had slightly different aims, apparently more practical than the English organizations, which were only partly technical and industrial in their educational provisions. Many of the American institutions

⁸Anderson, Lewis F. History of Manual and Industrial Education, 1926, p. 120.

established schools in which were taught chemistry of applied arts, mechanical drawing, architecture and mechanics. Certain Mechanics Institutes have maintained their existence up to the present and have developed wholly or in part into technical or trade schools, while most of them, like those in England, have died out.

The Gardiner Lyceum was organized in 1822 at Gardiner, Maine, for the purpose of giving to farmers and mechanics such scientific education as would enable them to become skilled in their work.⁹

The Rensselaer School was founded in 1824 at Troy, New York. The aim of the instruction in this school was not only to train students in the principles of the science of agriculture and the mechanic arts but also to fit them to impart this knowledge to others. After completing an extremely practical course the student was required, among other things, to visit and observe the different types of artisans in the community, and then to demonstrate the principles upon which the various operations were based. Thus, according to the report of the Regents of New York University in 1828, it seems that the sciences taught in this school were considered indispensable to the successful prosecution of manufacturing in wool, cotton, and iron.

Another indication of the interest of Americans in this type of education was the organization of the American Lyceum about 1826. Although suggested by the Mechanics Institute this Lyceum was planned to meet the educational needs, vocational as well as cultural, of a larger section of the population.¹⁰ Although designed to meet these needs, its influence in maintaining the cause of industrial education seems to have been decidedly inferior to that of the Mechanics Institute.¹¹

In the first quarter of the nineteenth century the Manual Labor Schools (or, as they are frequently referred to, the Fellenburg Schools) had instituted the plan of combining hand labor with learning. However, in only a few instances did the aims of the Manual Labor Schools appear to be vocational.¹² Yet some rather well-organized

⁹American Journal of Education, Vol. II, p. 216.

¹⁰American Journal of Education, Oct, 1826, p. 395.

¹¹American Journal of Education, Vol. II, p. 216.

¹²History of Education in Pennsylvania, p. 480.

experiments developed in these schools out of the growing recognition of the necessity for providing more thorough and systematic industrial education.

Maclure's Industrial School, which was similar to the Rensselaer School, was developed in 1827 by Neef and Maclure at New Harmony, Indiana. In addition to the regular instruction given in this school, training was provided in several of the arts and trades.¹³ Maclure made several attempts to establish school education in the industries and to bring industrial practices into the common schools as a means of teaching useful occupations and of defraying the expenses of the school through the products of labor.

Thus the period 1820 to 1850 was fertile with plans for associating manual labor with the schools. Most of these plans were never put to the test of actual experiment and as a consequence simply reflect the growing conviction of educators in this country as to the value of systematic industrial training as a part of vocational and liberal education. This conviction is further demonstrated by a résumé of the activities of various prominent officials, societies and organizations of the time.

Most educational movements have been accompanied by some opposition and the movement to introduce vocational training into the school was no exception to the rule. The Western Literary Institute in 1835 set up vigorous objection to the introduction of trade education into the schools.¹⁴ In spite of this apparent opposition, during the two or three decades preceding the Civil War there was a constantly growing tendency toward the democratization of education. This was evidenced finally by the recognition of vocational education by the Congress of the United States.

The Land Grant Act of 1862 probably had a more profound and far-reaching influence upon industrial education than any other measure enacted in the 19th century. The introduction of this act may be said to have resulted from the immediate activities of such organizations as the Industrial League of Illinois,¹⁵ The People's College,

¹³George B. Lockwood, The New Harmony Experiment: New York, 1905, pp. 233-243.

¹⁴Western Literary Institute, Transaction of the Fifth Meeting, p.109.

¹⁵Edmund J. James, The Origin of the Land Grant Act of 1862, pp. 102-105.

located at Havana, New York,¹⁶ and the Pennsylvania Agricultural Society.¹⁷ This Act, known as the Morrill Act of 1862, definitely changed the policy and procedure of the Federal Government in relation to education. From the Revolution to the Civil War the Federal Government had been interested solely in encouraging the states to provide educational facilities as a whole without emphasizing special phases of the curriculum. The Morrill Act inaugurated a program of stimulating specialized types of education in order to extend them rapidly throughout the nation. The Act consequently has played a basic role in our system of Federal subsidies for education and has had a profound influence in the realm of educational administration.

As a result of this legislation the need for a practical, effective, and economical method of working with tools and machinery was recognized in the colleges of Mechanical Engineering. Soon after the Morrill Act was passed in 1876, there was presented at the Philadelphia Centennial in the exhibit of the Imperial Technical School of Moscow, a system of education by means of hand work developed by Della-Voss as a substitute for an apprentice system which experience in Moscow during the preceding thirty years had shown to be expensive.¹⁸

It was pointed out by Runkle that this system did not train for mastery in any particular trade, but rather, cultivated skill in "the elements which underlie all industrial pursuits." Runkle's report to the Corporation of the Massachusetts Institute of Technology on the Russian System of Shopwork led to its adoption and to the establishment of the School of the Mechanic Arts as a part of M.I.T.¹⁹

During the five years previous to Runkle's report (1872-1877) several recommendations had been made to both legislative and educative authorities. The "Report on a Developing School" by a committee of the American Science Association indicated a considerable body of opinion favorable to industrial education notwithstanding the

¹⁶Sidney Sherwood, History of Higher Education in New York. Washington, 1900, pp. 320-321.

¹⁷James Wickersham, History of Education in Pennsylvania. Lancaster, 1886, pp. 432-433.

¹⁸Lewis F. Anderson, History of Manual and Industrial Education, p. 156.

¹⁹Samuel C. Brown, A Series of Centennial Suggestions Based Upon Foreign Methods.

impracticable character of the particular plan proposed.

Runkle's adoption of the Russian system and his plan for utilizing it was the culminating factor that marks the beginning of the manual training movement, the first stage in a period of discussion and experimentation in educational handwork which is still running its course.²⁰

The center of manual and industrial education shifted early from the conservative eastern centers to St. Louis in the middle west. Experimentation in shopwork instruction, which had been going on since the early sixties under the direction of C. M. Woodward of Washington University in St. Louis, now received new impetus leading to the founding by certain business men of the St. Louis Manual Training School, 1879, the prototype of the class of schools still known by that name. The purpose of the early school does not seem to have been clearly defined. Its financial supporters seem to have had in mind more efficient training for industrial life while those in connection with the school indicated that the central idea was that of utilizing logically organized and carefully graduated exercises in the use of tools as an important factor in general education. However, Anderson states that "common ground was found in the conviction that the elaborately organized and formal training in the use of tools which Woodward recommended afforded a valuable preparation for all manual trades."²¹

The Russian System, referred to on page 7, had been adopted in this country largely because it seemed to afford a solution of the problem of providing in college that part of the vocational training of the mechanical engineer involving the use of tools and machinery. At the same time it had been seized upon as a system which would make it practicable to give in school that training in the use of tools so long advocated as a most desirable, if not essential, feature of a well-rounded general education. However, the system revealed a serious defect in actual practice. Work with tools which produced no object of use or beauty and which was performed merely for the sake of the skill to be acquired, proved to have little attraction for the average youth, and the system was threatened with decline. It

²⁰"Fifteenth Exhibition of the Massachusetts Charitable Mechanics Association," Boston, 1884, p. 20.

²¹Lewis F. Anderson, History of Manual and Industrial Education, p. 162.

was under these conditions that another system was brought to the attention of American educators.²²

The Sloyd System appeared to be free from the defects experienced with the Russian System and has since exercised a marked influence upon the manual training school work throughout the civilized world. It was first brought to the attention of American educators in this country by Professor J. M. Ordway whose description of the Swedish sloyd was published in 1883 in the Annual Report of the Massachusetts Board of Education. Among the distinctive features as described by Ordway were: "(1) The emphasis laid upon the mental and physical development of the child rather than upon the mere acquisition of skill in the use of the common tools. (2) The carefully arranged sequence of the exercises and the care taken to adapt them in other respects to the nature of the child. (3) The restriction of the work of the pupil to the making of the complete articles, valuable for their usefulness or for their beauty. (4) The importance attached to the knife as being 'the first and fundamental tool.' (5) Insistence upon trained teachers as instructors."

The spread of the manual training movement was fostered by well-organized demonstration in the St. Louis schools, the continued agitation of the question of the educational handwork by the press and on the platform by Runkle, Woodward and others. By 1885 Manual Training schools were established in Chicago, Philadelphia, Cleveland, Toledo, and Baltimore, in the majority of cases by private means.

The initiative in definitely incorporating manual training into the work of the public school was taken in the establishment of the Baltimore Public Manual Training School in 1883-1884. Popular interest in the system continued to increase steadily throughout the eighties. While there were other factors contributing to the growth of the movement, the reorganization of the Kitchen Garden Association formed in 1880 was of prime importance.

The Industrial Education Association and Teachers' College, at Columbia University, which had developed out of the Kitchen Garden Association of 1880, devoted itself whole-heartedly to the task of introducing industrial

²²Ibid, p. 160.

education into schools for the general education of the young,²³ not only in New York but also throughout the country. In its First Report the Industrial Education Association states as one of its objects "to study and devise methods and systems of industrial education and secure their introduction into schools."²⁴ Furthermore, this Association undertook to "provide instructors for schools and classes, and if necessary to train teachers for this work."²⁵

Throughout the successive stages of its extraordinary growth Teachers' College which later became a part of Columbia University has remained true to the purpose of its founders. It has continually exerted a powerful influence on the promotion of manual and industrial training in the schools of the country.

Although advocates of school handwork have always urged its value as an aid in selecting and preparing for a vocation, it was chiefly its reputed cultural value which led to its wide-spread introduction in the last quarter of the nineteenth century. The incorporation of manual training into the school program was urged, primarily because of its value as one of the liberal arts; considerations of vocational training were secondary. The first decade of the twentieth century is characterized by a reaction to this general point of view. This reaction, compulsory education legislation, dissatisfaction with the results of the manual training work in the schools, lack of skilled labor and the demand of the laboring class for a better adjustment of school work to their needs, are considered to be some of the conditions contributing to the establishment of vocational industrial schools.

THE EARLIEST SUCCESSFUL AND INFLUENTIAL TRADE SCHOOLS

The earliest successful and influential trade schools in the United States were those established for Negro and Indian students at Hampton, Virginia, and Carlisle, Pennsylvania, respectively. The Hampton Institute, established in 1868, is frequently characterized as "the first industrial school of any importance in the United States."

While school training in the various branches of industry was being developed for the Negro, attempts were

²³Third Annual Report of the Industrial Education Association.

²⁴First Annual Report of the Industrial Education Association.

²⁵Ibid.

made here and there to provide school instruction and training in the trades for white youth. One of the earliest and most successful of these was the founding of the New York Trade School, in 1881, by Colonel Richard T. Auchmutz. The founder's purpose was to supply a better means of instruction and training in the handicrafts than that afforded by the apprenticeship system then in vogue. Although tuition fees were required, the school was neither established nor maintained for financial profit. Its entire resources, since increased by endowments, are devoted exclusively to efficient school instruction and training in the trades. In 1885, the Rochester Mechanics Institute was established by private subscription to provide vocational industrial training along with the elements of a liberal education.

The number of schools of this sort giving practical industrial training rapidly increased during the following decades. The vocational movement at the opening of the twentieth century was reflected both in the establishment of important privately owned schools, such as the David Rankin, Jr. School of Mechanical Trades in St. Louis in 1907, and the Wentworth Institute in Boston in 1911 (incorporated in 1904), and in the establishment of public institutions such as the Philadelphia Trade School in 1906, the Milwaukee School of Trades in 1906-1907, and the Columbus Trade School, Columbus, Ohio in 1909. This same period is marked by the organization of state systems for industrial schools and of aid to such schools as that of Massachusetts in 1906-1909, New York in 1908, and Connecticut in 1909.

Notwithstanding the steady increase of schools and classes for manual and industrial education from this period to the present day, there appears to be considerable confusion of opinion as their objectives. Nevertheless, progress in the development of the theory involved in defining the school's responsibility for industrial education and in the development of federal support is being made.

In vocational education there appears to be a growing tendency to resort to some combination of school and shop work as the best means of providing efficient instruction and practical training. Government recognition and financial aid for vocational industrial education exists in most of the states. Support inaugurated through the passing of the Smith-Hughes Law opened a new era in the development of industrial education. This law and subsequent state acts were perhaps stimulated by the independent actions of some of the states, notably Massachusetts.

The Massachusetts "Commission on Industrial and Technical Education," created in 1906 by the State Assembly, consisted of nine persons representing manufacturing, agriculture, labor and educational interests in the state. The purpose of this Commission was to investigate the need for education in the different grades of skill and responsibility in the various industries of the state.

The report of the Commission helped to bring before the public the fact that manual training and technical high school training are not to be regarded as vocational industrial education, and it emphasized the fundamental importance of real trade schools. It pointed out what were considered to be features of the various foreign plans applicable to our country's needs.

The appointment of this Commission was almost contemporaneous with the formation of the National Society for the Promotion of Industrial Education, which will be described later.

SUMMARY

About four hundred years ago, in attempts made by men fired with the spirit of the Renaissance to imagine and describe an ideally perfect manner of human life, the earliest suggestions were made that the study and practice of the industries be incorporated into the general education of the young. During the following century reformers constructed systems of education which provided special schools or courses for instruction and training in various branches of industry. Toward the beginning of the eighteenth century the earliest attempts were made at school instruction and training of the young in industries.

The latter half of the same century saw the rise of two movements which have ever since proven to be two of the most powerful factors in bringing about manual and industrial school education; educational naturalism, and the Industrial Revolution. To these should be added the movement for the relief of poverty which brought about at that time, especially in Germany, the introduction of industrial education not only into charitable institutions but also into the folk school.

At the turn of the eighteenth and nineteenth centuries, a much larger measure of public attention was directed to the new theories of the educational importance of

handwork, through the educational writings of Froebel, and through his example in introducing it into his famous school at Keilhau and elsewhere.

Meanwhile a beginning had been made in the introduction of manual and industrial work into American schools. In 1870, at the request of manufacturers and merchants who felt the pressure of the international competition intensified by the Industrial Revolution, the legislature of Massachusetts introduced industrial drawing as a required study into the public elementary schools of the state. Some six years later, certain heads of schools of mechanical engineering found what they believed to be an efficient school method of instruction and manual training in the use of tools in the Russian system of manual training, exhibited at the Centennial Exposition at Philadelphia in 1876. They applied it immediately, not only in the vocational preparation of students of mechanical engineering, but in providing cultural hand training for pupils in secondary schools. The Manual Training High School, established by certain business men in St. Louis, under the direction of Professor Woodward, proved to be the first of a type of schools characterized by the extensive use made of handwork as a means of general education. Schools and departments of schools affording similar training have been established throughout the country.

The Industrial Education Association of New York City, successor to the Kitchen Garden Association, established a training school for teachers of industrial education which later developed into Teachers' College of Columbia University.

Attempts to remedy defects in the formal and abstract Russian system of manual training led, in some instances, to the adoption of sloyd.

About the middle of the first decade of the present century, the work of the Massachusetts commission on technical and industrial education inaugurated a movement for the establishment of vocational industrial schools and for replacing the formal manual training exercises by handwork more directly related to the industries.

The demand for vocational training has been met by the establishment of trade schools and trade departments in general schools which aim to give the pupils a fairly complete mastery of a trade. Since the opening of the twentieth

century, the view has gained acceptance that the mere trade school or department, though a valuable auxiliary, could never meet the requirements of a nation-wide system of vocational education. The shop or manufacturing plant operating under normal conditions has come to be more widely recognized as an indispensable factor in such a system. Various combinations of the school and the shop for the purpose of training have been devised.

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Chapter II

FEDERAL LEGISLATION AFFECTING THE DEVELOPMENT OF INDUSTRIAL EDUCATION AND THE DEVELOPMENT OF GOVERNMENT-SUPPORT

HISTORICAL BACKGROUND

In order to set up a back ground for the legislation pertaining to industrial education in Michigan it seems necessary to present those Federal enactments which have led up to, or which have necessitated certain legislative actions within the state.

The agitation terminating in the passage of the Smith-Hughes Act, by the Federal Government in 1917 was of such long duration and wide scope that it may rightly be called a "movement" in our national educational growth. The initial stage of the movement was marked by the shift of industry from the home and small shop to the factory. Families no longer followed one trade or occupation for generations. Trade training ceased to be a father-to-son process. The mass production methods of the factories offered little opportunity for training the young trade worker in the industry itself. The apprenticeship system was continued, but declined in importance and the results were far from satisfactory.

Labor employers and educational organizations were not long in discovering that some more efficient system of trade training was needed. Their efforts to secure adequate vocational training for young people gradually focused attention upon the situation until the problem assumed national prominence.

Public sentiment seemed to center immediately around the proposition that the American guarantee of equal educational opportunity obligated the public schools to furnish the necessary vocational education. Gradually the country became aroused to the deficiency of our public-school system in its failure to give proper attention to the first problem of man's existence, that of earning a livelihood. The present agitation for industrial training which is sweeping over the country is based upon the belief that the

public schools have not been fitting our children for the industrial civilization in which they are to live. The national government showed signs of consciousness of this attitude on the part of the public soon after the middle of the nineteenth century.

The Morrill Act. This Act, previously referred to, marks definite changes in federal policy from grants in aid to education in general to grants in aid of specified types of education, and in the adoption of a formula for the distribution of subsidies to all of the states.

The Act was first introduced in the House of Representatives in December 14, 1857, and proposed that Federal aid should be given to the states for agricultural and mechanic arts education. The originator of the bill was Mr. Justin S. Morrill of Vermont, at that time just entering on his second term as Representative. The bill granted six million three hundred and forty thousand acres of the public land to the states, each receiving thirty thousand acres for each senator and representative in Congress to which it was entitled under the census of 1850. The land, when sold, placed in the hands of the state accepting the grant a fund the interest of which, coupled with the aid given by the state in question, was believed to be sufficient to establish and maintain a college of agriculture and the mechanic arts.

The bill passed both houses of Congress but was vetoed by President Buchanan and the House failed to pass the bill over the executive's disapproval. The President gave six grounds for his disapproval of the measure:

1. The bill was "financially inexpedient" at this time. The Federal government was counting on receiving from the sale of public lands in the following year about \$5,000,000. If the bill became a law the market would be overstocked and the government would be deprived of this revenue from sales.
2. The states would get into the habit of receiving aid from the Federal treasury and they would continually ask it for all kinds of measures.
3. The bill was "productive of inharmonious relations between the states."
4. It was "promotive of possible fraudulent speculation."

5. The bill would injuriously interfere with existing colleges in the different states, in many of which agriculture was taught as a science.
6. The President said that the bill was unconstitutional, because it went beyond the power of Congress. He said, "I presume the general proposition is undeniable, that Congress does not possess the power to appropriate money in the treasury, raised by taxes on the people of the United States, for the purpose of educating the people of the respective states."

On December 16, 1861, Mr. Morrill introduced a similar though improved bill, and almost five months later Mr. Benjamin Wade of Ohio brought up the same measure in the Senate. Although unfavorably reported by the committee in the House, it passed in both Chambers, and on July 2, 1862, received the signature of President Lincoln.

Mr. Morrill's bill of 1862 was similar to his bill of 1857, with the exception of the clause providing for a study of military tactics. To quote the language of the bill of 1862, "the leading objects of which shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

The grant of public lands provided for in the Morrill Act of 1862 was soon accepted by the legislatures of the states. After the end of the Civil War the grants were extended to the states which had been out of the Union when the Act became a law. The grant was accepted by each state under the obligation that nine-tenths of the money derived from it should be preserved by the state as an inviolable fund with which instruction in the subjects mentioned in the law should be maintained; the remaining one-tenth of the proceeds could be used by the state for buildings and equipment.

Among the many effects of this Morrill Act of 1862 was the promotion of scientific research in colleges already established. Classical colleges found it necessary to establish laboratories to meet the growing needs of the new era. State colleges of agriculture were founded and in the

face of many serious problems, among the greatest of which was the difficulty of obtaining competent instructors to fill these newly created chairs, they slowly developed to their present important place in the educational work of the country.

In 1872 Mr. Morrill launched a campaign for additional funds for the "land grant" colleges, as they had come to be called. The whole amount of land scrip issued under the Act up to 1871 was 7,636,588 acres, but this had not been satisfactorily administered. The new measure proposed a different method of administration from that under the original act. The lands were to be held by the United States Government until sold, and when sold the proceeds were to be invested in United States five per cent bonds, to be held by the Treasurer of the United States, and the interest was to be paid to the colleges semi-annually. The bill aimed to distribute benefits on some other basis more equitable than in Congress as provided in the act of 1862. Although this bill was killed, Senator Morrill introduced measures during the following sessions of Congress, and on March 3, 1883, an amendment of minor importance to the First Morrill Act of 1862 was passed.

The Hatch Act--1887. This so-called Hatch Bill was introduced in the United States Senate by Senator James George of Mississippi in 1885. The bill sought to establish agricultural experiment stations in each state in connection with the agricultural and mechanical colleges. There were many debates over this bill, but no favorable action was taken until 1887, after several changes had been made in the bill. On January 27, 1887, the Senate passed the amended bill as introduced by Senator George. Two days later the bill was laid before the House of Representatives. Here the bill was in charge of Mr. W. H. Hatch of Kentucky. It passed the House and on March 2, 1887 received the approval of the President.

The Hatch Act provided for an annual appropriation of \$15,000 to each state for the purpose of carrying on experimental work in farming and farm projects. The experiment stations connected with the Land grant colleges were to conduct researches and experiments bearing directly upon the agricultural industry of the United States with due regard to local conditions and needs.

Second Morrill Act--August 30, 1890. It was not until 1890 that Mr. Morrill succeeded in obtaining increased aid for the instructional work of the land grant colleges, thus placing the national support of these institutions on a sound basis. This second Morrill Act differed from the first in two essential particulars. The first act made a grant to the states of certain quantities of public land, which they could dispose of in whatever manner seemed advisable to their authorities; the second act granted to the states money in the treasury accruing from the previous sales of the public lands by the United States government and receipts from certain land grant railway companies; the law of 1862 merely appropriated public lands. The law of 1890 provided for an annual appropriation which in 1890 was to be \$15,000 for each state, and was to be increased by \$1,000 a year until the year 1900, after which time each state would receive annually \$25,000 to be applied to instruction in agriculture, the mechanic arts, the English language, and various branches of science.

As a result of the passage of the Morrill Acts of 1862 and 1890, colleges of agriculture and mechanic arts were organized in the following states: Alabama, Colorado, Connecticut, Delaware, Florida, Iowa, Kansas, Kentucky, Maryland, Michigan,¹ Mississippi, Montana, New Hampshire, New Jersey, New Mexico, North Carolina, North Dakota, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Texas, Utah, Virginia, and Washington. This list included, according to the Report of 1899, sixty-four institutions of learning, with 35,956 students and 2,893 professors and instructors.

Adams Act. The history of appropriations for agricultural experiment stations followed the precedent set by the development of land grant colleges. On December 4, 1905, Mr. Henry Adams introduced a bill "to provide for an increased annual appropriation for agricultural experiment stations and regulating the expenditure thereof." Mr. Adams reported forty-eight stations in all throughout the country. The growth of the country and the increased demands upon these stations made an increase in the appropriations desirable. The bill "adds an appropriation of \$5,000 in the first year to each station, amounting in all to \$240,000, and then adds \$2,000 each year for five years until the

¹Michigan State College was the first of its kind, established in 1857.

total increase shall be \$15,000 annually to each station. So that at the end of five years the total appropriation to the station in each state and territory of the United States will be \$30,000." By this bill Federal control was to be greatly increased, for each station was required to present annually a detailed statement of receipts and expenditures of the Federal funds to the Secretary of Agriculture, who could withhold allotments if the conditions at the stations were not up to requirements determined by the Department of Agriculture. The Adams Act was passed by both House and Senate and, on March 16, 1906, received the signature of the President.

In 1921, the total Hatch and Adams subsidies of \$1,440,000 to the states was supplemented by the states to the amount of \$3,786,997.

Nelson Amendment--Act of 1907. The predictions of those who opposed the original Morrill bill on the ground that the states would get into the habit of receiving aid from the Federal treasury and they would be continually asking for it proved to be true, for in 1907 Senator Knute Nelson of Minnesota brought up an amendment proposing to increase the subsidy to each state to \$50,000 per year. Mr. Nelson's proposal, however, raised very little debate in comparison with the many objections made to the Morrill Acts.

Senator Nelson stated the purpose of the amendment in these words: "What induces me to present the amendment is that in a great many of the states, especially in the South, they are now establishing county and rural agricultural schools, and the object of the amendment is to enlarge the scope of our agricultural colleges so that they can fit teachers for these agricultural schools."

The Nelson amendment raised the Federal grant to each state for the agricultural colleges to \$35,000 a year, with an increase of \$5,000 each successive year until \$50,000 should be reached. It provided for using some of the money to prepare instructors to teach the subjects for which the colleges were established. The Secretary of the Interior was to inspect the colleges and withhold the funds if conditions were not satisfactory.

Smith-Lever Act--1914. For many years the idea of establishing agricultural extension departments in connection

with the agricultural colleges and experiment stations in the several states had been growing, but it was not until 1914 that a law was passed to this effect. The Smith-Lever Law of 1914 provides for a fund to be administered by the state college. It is really a cooperative fund provided in part by the state and in part by the county or smaller local units. The work consists in giving of instruction and practical demonstrations in agriculture and home economics to persons not attending the agricultural colleges. Several new and significant provisions in the handling and in the administration of Federal aid were made in the Smith-Lever Law.

1. \$10,000 was given to each state regardless of its needs and the remainder was to be apportioned in the proportion which the rural population of each state bore to the rural population of all of the states as shown in the last Federal census.
2. The plan required that the states match the Federal dollar.
3. The State Relations Service, a part of the United States Department of Agriculture, was given charge of all of the cooperative relations of the Department of Agriculture and the State agricultural colleges.

In the administration of the Smith-Lever Law much work is performed through the county agricultural agents. In the United States over two thousand such agents now disseminate information regarding proper methods of farming.

From 1905 to 1912 several bills were presented in Congress, among them the Davis, and Dolliver-Davis Bill, and the Page-Davis Bill. These bills were attempts to secure Federal aid for agricultural education and instruction in home economics and the mechanic arts on a secondary level.

The Dolliver Bill as first introduced was "for increased appropriations to agricultural colleges for extension work." Mr. J. C. McLaughlin of Michigan introduced the bill in the House of Representatives. It may be said that these attempts along with others culminated in the presentation and passage of the Smith-Lever and Smith-Hughes Acts.

The Page-Wilson bill for instruction of children and the training of teachers was introduced in 1913. It provided for:

1. \$480,000 a year to state colleges of agriculture and mechanical arts and \$1,000,000 a year to normal and other training schools for training teachers to give instruction in agriculture, industries and home economics. "This grant takes effect 1913."
2. \$9,000,000 a year for operation of schools which give instruction in agriculture, industries and household arts.
3. A million dollars yearly for demonstration work in agriculture. "This sum becomes available in 1916."
4. For extension teaching the bill proposed to grant \$500,000 in 1913 and \$3,000,000 in 1931.

This bill failed to become a law.

These Acts, Amendments and Bills were evidences of the growing influence of federal participation in vocational education.

INDUSTRIAL EDUCATION MOVEMENTS

While these developments were taking place in the matter of federal aid for agricultural education certain other things were happening which were directly significant for industrial education. Among these were the appointment of governmental commissions in different states to investigate the needs for industrial education and to determine the best means of meeting such needs.

The earliest of these commissions was the one created by the legislature of Connecticut, in 1903.² Its report led to the passage in 1907 of the "Act Concerning the Establishment of Free Public Schools for Instruction in the Principles and Practices of Trades."³ The trade schools of Connecticut can trace their beginning quite largely to the report of this commission.

Of the numerous later state commissions, probably the most influential was the Massachusetts Commission on Industrial and Technical Education appointed in 1905. The reports of this Commission and its successor the Commission on Industrial Education appointed in 1906, exerted, as stated before, a profound influence upon the theory and

²Anderson, Lewis F., History of Manual and Industrial School Education, p. 234.

³Federal Bulletin, No. 15, 1933, p. 25.

practice of school education for the industries. It must be remembered however, that Massachusetts as far back as 1870 had shown considerable interest in legislation concerning the introduction of trade education in the public schools.⁴

Guided by the reports of investigating commissions and committees, public and private, and urged on by what seemed to be an increasing popular demand for industrial and other vocational education, the legislatures of the different states made provision for its encouragement, direction and support in a variety of ways which it is not practicable to examine in detail here.

THE FEDERAL COMMISSION ON NATIONAL AID FOR VOCATIONAL EDUCATION

An active campaign for securing federal aid for vocational education on the secondary school level culminated in 1914, in the creation of a Federal Commission on National Aid for Vocational Education. Congress authorized the President to appoint a group of nine⁵ who were to consider the subject of national aid and report their findings. Extensive hearings were held and a lengthy report presented by this Commission, consisting of the following members:

Senator Hoke Smith, Georgia.

Senator Carroll S. Page, Vermont.

Representative D. M. Hughes, Georgia.

Representative S. D. Fess, Ohio.

John A. Lapp, director of Indiana Bureau of Legislative Information, Indianapolis, Indiana, and secretary of the Indiana Commission on Industrial and Agricultural Education, 1912.

Miss Florence M. Marshall, director of the Manhattan Trade School for Girls, New York City, and a member of the Massachusetts Factory Inspection Commission, 1910.

Miss Agnes Nestor, president of the International Glove Workers' Union, Chicago, and a member of the Committee on Industrial Education, American Federation of Labor.

⁴See Chapter I, page 18.

⁵FEDERAL BULLETIN NO. 15, 1933. p. 97.

THE ARGUMENTS FOR NATIONAL AID TO VOCATIONAL EDUCATION

The arguments for national aid to vocational education presented by this Commission to Congress and reasons behind these arguments may be briefly stated as follows:

The urgent need for vocational education justifies national grants. As a basis for this argument it was held that in the proportion that our resource factor fails we must increase the efficiency of human labor in the shop as well as on the farm. American resources for nearly two centuries had been exploited until in many cases the point of exhaustion was approaching. Conscious effort on the part of the federal government to educate the people to conserve and develop the diminishing resources was highly desirable. Further than that it was necessary that labor be trained to be less wasteful and at the same time turn the materials used into products of higher value.

Few of the states had established state systems of vocational education and it was found that those in effect had reached only one per cent of the workers who needed training. Germany, with a thirty-year start in national aid, was fast securing a monopoly of world markets because of the superiority of her industrial products. It was quite evident that nothing short of ample federal aid could bring American industry up to a level equal to that of Germany.

The states can not do the work by themselves. Adequate vocational training demanded federal aid. The various states had a heavy burden in meeting the new demands of general education. Their sources of revenue could not be extended because the national government was rapidly taking over the new and additional sources. Local communities over the land were also handicapped because of restricted taxing powers. This was particularly true in the agricultural and industrial communities where vocational education was most needed. National aid seemed to be the only answer to this argument.

National grants are justified by the interstate character of the problem of vocational education. Because of the interstate character of industries and the national character of state business and industrial life, the various states were reluctant to provide training for individuals who quite often used their increased skills in other states or communities. Skilled labor, after receiving

extensive training, was especially mobile. Only out of a common fund like the national treasury could the burden be equalized and adjusted.

National grants for vocational education are justified by the national character of the problem. National efficiency is the sum total of efficiency of all individual citizens and the national wealth is the sum of their wealth-producing capacity, was the basic reason supporting this contention. In the past national prosperity had been based largely upon the exploitation of material resources. In the future it was evident that national prosperity would be based more upon the development, through vocational education, of the national resource of human labor. Individuals were competing in the markets of the world, not as individuals but as a unit against other nations as units. Thus the protection of raw materials and production of skill in human labor made the problem of vocational education an item of national concern and responsibility. It was clearly up to the national government to promote the general welfare.

National grants for vocational education are justified by abundant precedent. Congress, since the organization of the government, had enacted nearly fifty acts which gave grants of money or land to the states, singly or collectively, for the benefit of education. That body, therefore was not hampered by hesitation in setting an example for future congressional assemblies.

Grants for higher forms of vocational education. During President Lincoln's administration, Congress began the practice of giving aid to higher forms of vocational education by passing the Morrill Act which gave tracts of land for the support of Agricultural and Mechanic Arts Colleges. Later, by other acts, grants of money were made for the same purpose. The results were sufficiently satisfactory to warrant further financial aid in the same direction. Money grants for the support of experimental stations, teachers salaries, purchase of grounds and buildings, and related purposes were also made. Because the value of federal aid to higher vocational education had been established, Congress was advised to extend its support to include lower levels of vocational training.

Grants for special kinds of schools. Special schools for the blind, deaf, dumb, and juvenile criminal

had received grants of land, totaling more than 2,500,000 acres, through action of Congress. Federal aid, in one form or another, had even been given to schools which were conducted under private agencies. It was only reasonable to expect that Congress should be as active in assisting in the development of its normal citizenry as it was in the training of the defectives of the land.

Grants for training teachers. Federal grants of land and money had in the past greatly encouraged the establishment of many universities and colleges of both general and special educational types. Following these grants came national aid to many special departments and services of these and other schools. Such encouragement had an indirect but positive effect upon the efficiency and value of secondary school teachers, extension directors, and college instructors in agricultural, mechanical, and home economics work. Congress then, had only half finished its task. Before fullest vocational efficiency could be reached, federal aid had to be given to secondary vocational education so that the rank and file as well as the leaders in vocations could be adequately trained.

National grants to federal departments and bureaus. In addition to the grants made by the federal government for the various purposes above, numerous grants totaling millions of dollars had been made to federal departments and bureaus for vocational education purposes. These agencies had been of great value in collecting and distributing information of vocational character direct to farms and industries. Provision of federal funds sufficient to carry on certain lines of their work with a more specific application to educational purposes promised to be of inestimable value in the furtherance of vocational education throughout the country.

National grants for extending vocational education are amply justified by the results. Opposition to the disbursing of federal money to the states for educational purposes has been due largely to the fear, as expressed by President Buchanan, that it would cause the states to lean upon the national government for the support of their own educational systems. This argument was largely refuted by the fact that every national grant for educational purposes had caused a reaction on the part of the states in the opposite direction. On the average, every federal dollar

given for education had been matched by four dollars of state and local community funds. Further refutation was found in the fact that in most of the states along the eastern coast where land grants were not available for the stimulation of state universities such institutions had never been established. Federal aid then actually stimulated the various states to increase their educational activities.

National cooperation with the states for vocational education is justified by the precedents in cooperation already established. Before 1850 the national government fully supported almost all activities of an interstate character as a means of national development. Following this pioneer development period the government followed the practice of cooperating with the states in financing and controlling higher education, roads, public buildings, internal improvements, and other purposes considered necessary. Sixty years practice of this policy was considered ample to warrant the cooperation of the government in one more enterprise--that of vocational education.

The human problem most important. The nation, prior to 1914, was spending more than a billion dollars annually on such physical problems as the national defense, the promotion of commerce, postal and customs service, the preservation of law and order, erection of public buildings, improvement of rivers and harbors, and reclamation of arid lands. Although these services were important and necessary, Congress was reminded that the human problem, in proportion, was vastly greater. In fact the need of 25,000,000 untrained people for practical education was of importance to the social, economic, and political structure of the country.

Further, improvement of physical features could be of little or no value if the citizenry lacked the proper training for intelligent use of them. To furnish aid year after year for these physical problems and to ignore the human problem was to set the seen above the unseen.

Brief mention of other but less important arguments for national aid to vocational education could be made. The report of the Commission probably represented a condensed account of the sentiment and attitude of the people of the nation presented to Congress in a logical and convincing form.

Organizations such as the National Society for the Promotion of Industrial Education, The National Educational

Association, Manufacturers Association, The American Federation of Labor, and others were active in formulating arguments backed by convincing data in support of federal aid for vocational education. Individuals who appeared for hearings before the Commission, the state and city superintendents who returned questionnaires, and the individuals who sent letters to the Commission, all had some part in the making of the arguments presented to Congress.

However, the submission of the report was the end of action during the sixty-third Congress, as the report received no consideration in the short session which opened in December 1914. Early in the spring of 1915 the National Society for the Promotion of Industrial Education made definite plans to secure action in Congress on vocational education. The immediate object was to secure the passage of the bill, afterwards known as the Smith-Hughes bill, while a second object was to incorporate in the bill certain features in which the society was especially interested. The support of various groups was solicited in the hope of presenting a united front to Congress. The bill was presented in both Houses early in December 1915.⁶ The President had become interested, and in his annual address to Congress, he said, "What is important is, that the industries and resources of the country should be made available and ready for mobilization. It is more imperatively necessary, therefore, that we should devise means for doing what we have not yet done; that we should give intelligent federal aid and stimulation to industrial and vocational education, as we have long done in the large field of our agricultural industry-----."⁷

In addition to promoting the movement the National Society for the Promotion of Industrial Education devoted itself to the major point at issue which was the constitution of the Federal Board of Vocational Education. The society was in favor of a board "so constituted as really to represent employers engaged in manufacturing, in commercial pursuits, labor, agriculture and education whether general or vocational."⁸ This idea was endorsed by the Department

⁶Sixty-fourth Congress, H. R. 457, December 6, 1915; S. 703, December 7, 1915.

⁷Congressional Record No. 53; p. 99.

⁸National Society for the Promotion of Industrial Education; News Letter No. 8, p. 7.

of Superintendents of the National Educational Association, and the American Federation of Labor, the National Metal Trades Association, the National Association of Manufacturers, and the American Home Economics Association.

The United States Chamber of Commerce through its committee on education submitted a favorable report on federal aid for vocational education and recommended that the Chamber take a nation-wide referendum on the subject.⁹ The published results of this referendum showed rather definitely the attitude of an important and influential group as to whether its members desired federal aid for vocational education as well as their attitude on the constitution of the Federal Board for Vocational Education, proposed in the bill.

After action in Congress had been delayed for some time the bill came up for its first consideration in the Senate on April 20, 1916 and was presented by Senator Hoke Smith.¹⁰ In the House of Representatives its features were presented by Dudley M. Hughes on July 29, 1916.¹¹ However, due to the fact that the bill was not included in the administration program it was not considered until other matters had been cleared, with the result that after having passed the Senate it was in the hands of the Committee on education in the House when Congress adjourned in September 1916. In the short session which opened December 5, 1916, President Wilson urged favorable consideration and early enactment of the law. The President's interest in the bill resulted in its being given privileged status in the House. On January 9, 1917 the House bill was passed which differed from the bill passed in the Senate. Later a compromise was effected between the House and the Senate and finally on February 23, 1917, the bill became a law by the approval of the President.¹²

Thus nearly ten years after the introduction of the first Davis bill the attempt to obtain federal aid for vocational education below college grade ended successfully. However, it must be remembered that there were many abortive attempts at legislation similar to the Smith-Hughes Act. For example, there were: The Davis Bill of 1907, the

⁹Chamber of Commerce of the United States, Referendum No. 14, p. 1.

¹⁰Congressional Record No. 54; p. 777.

¹¹Ibid. p. 11818.

¹²Congressional Record No. 54, *3424.

Dolliver-Davis Bill of 1910, the Page-Davis Bill, the McKinley Bill of 1911, the Lever Bill of 1911, the Overman Bill of 1911, the Page Bill of 1912, all of which failed of passage.

FEATURES OF THE SMITH-HUGHES LAW

The principal features of the Smith-Hughes Act were the result of an interesting evolution.¹³ The early bills formulated for the purpose of obtaining federal aid for vocational education were comparatively simple, involving few restrictions and containing only such general safeguards as were found in the land-grant college legislation up to that time. However, from time to time as new interests developed in support of the measure and as the result of accumulated experience, important changes were made in the bills. Many of the changes have been attributed to the feasibility of preceding acts and also to the shortcomings of these acts which pointed out further needs in vocational education.

The Smith-Lever Act of 1914⁴ was probably an important step toward the enactment of the Smith-Hughes Act. The Smith-Lever Act provided through national grants to the states for agricultural education for the mature farmer through farm demonstration and farm extension work. The provisions failed to include grants for teachers, supervisors, and directors of agricultural subjects in district agricultural high schools or in agricultural departments of rural high schools. The lack of this provision suggested to the supporters of the Smith-Hughes bill that it should be included in any new legislation. The grants from this act were divided among the states according to their population. The act further required that each state, or the local authorities in it, appropriate an equal amount to be used in accomplishing the work provided for by the act. Therefore, it may be seen that the Smith-Hughes Law contained many of the features of the Smith-Lever Act in combination with numerous additional provisions.

Educational opportunities expanded. The Smith-Hughes Act inaugurated the promotion of new opportunities in education: vocational training of less than college grade. As indicated in its title, it is:

"An act to provide for the promotion of vocational education; to provide for cooperation with the states in the

¹³Original Bill H. R. 16952-Final Senate 703.

promotion of such education in agriculture and the trades and industries; to provide for cooperation with the states in the preparation of teachers of vocational subjects; and to appropriate money and regulate its expenditure."

The first section specifically mentions an additional type of education, namely, home economics:

"-----there is hereby annually appropriated, out of any money in the Treasury not otherwise appropriated, the sums provided in Sections two, three and four of the act, to be paid to the respective states for the purpose of cooperating with the states in paying the salaries of teachers, supervisors, and directors of agricultural subjects, and teachers of trade, home economics, and industrial subjects, and in the preparation of teachers of agricultural, trade, industrial, and home economics subjects;-----."14

Annual payments of federal money are specified separately for each of these types of activity. Minimum amounts are also provided for each state.

Varied distribution. From a study of section two, three, and four it is apparent that an attempt was made to approximate the needs of the various states through the allotment procedure which can be ascertained by a reading of the above sections of the law.

Equal state contribution. In this legislation each dollar of federal money was required to be matched by state or local money as indicated in section nine of the law.

Administrative organization. The Smith-Hughes Act was responsible for the setting up of new administrative organizations, both federal and state.¹⁵ Consequently, there has developed a second important federally aided administrative system, separated from the land grant college system and its subsequent subordinate experiment stations and extension work. Section six of the law outlines in detail the composition, duties, and organization of these new bodies. One of the significant developments in this law was that, for the first time research in methods and subject matter for education was included among the duties of

¹⁴Ibid.

¹⁵See Figure on page 67.

the federal agency and studies in cooperation with federal departments and bureaus were authorized.¹⁶

Section five of the Act makes permissive rather than mandatory provision for the creation of separate state boards for vocational education but the language is positive in suggesting the permission to create boards of vocational education separate from all other educational administration.

Mandatory provisions. The mandatory provisions are, of course, included in the Act itself, although an analysis prepared by the Federal Board was designed to make these obligations stand out clearly as affecting the Federal Board, State Boards, State Treasurers, etc.¹⁷

Discretionary provisions. The range of matters depending chiefly upon the discretion and judgment of the Board was wide, as will be indicated by the following memoranda of certain points referred to in the aforesaid first interpretations of the Federal Board.¹⁸ Although the interpretations were tentative, this first statement of policies will be of some permanent interest to the student of education.

The Federal Board reserved the right to judge the arrangement made with each state; determined the duration of agreement between states and the Board; reserved the right to inspect local institutions, but dealt only with State Boards; decided when funds should be withheld; decided whether privately owned equipment might be utilized; prescribed in detail the nature of the reports on finance and work of schools, to be furnished by the State Boards; exercised discretion in permitting mixed classes with some pupils under 14 years of age who were "competent to do work designed for those who are 14"; defined methods of prorating salaries of teachers; defined rules for divorcement of teacher-training classes and of secondary classes using federal funds; advised with regard to meaning of "well-rounded courses of study"; advised that states might accept one or several funds either through Legislature or the State Board; decided that federal moneys for teacher-training could only be used for separate not for mixed classes, the full course of which must be approved; interpreted the

¹⁶Federal Statute 39, Sections 1, 6, 7.

¹⁷Federal Board for Vocational Education Bulletin No. 1, 1917.

¹⁸Ibid. pp. 20-48.

Act to exclude payment of federal funds for the teaching of commercial subjects in all-day industrial schools, but permitted the same in part-time schools. The Act also provided for research in commercial subjects.¹⁹

In addition to the above examples illustrative of the demands upon the discretion and judgment of the Federal Board in interpreting and administering the Smith-Hughes Act, there remain other cases in point. These cases concern special questions in agricultural education, in industrial education, and in home economics, with which this study is not directly concerned.

Approval required. All state plans for vocational education under the Smith-Hughes Act require the approval of the federal agency. The Act also makes it mandatory upon the federal agency to exercise the power of approval over the standards which each state establishes. Specifically, such approval is required in matters pertaining to minimum qualifications for teachers, supervision, minimum requirements for necessary plant and equipment, minimum amounts for maintenance of conditions as to length of course and hours of instruction in specified classes; and minimum requirements for industrial experience or contact of student teachers. Thus it would seem that the Federal Board is vested with a considerable degree of discretionary power in shaping and directing the vocational education policy of the states.

Furthermore, the Act contains in the sections mentioned above, detailed provisions that restrict the scope of work and prescribe the type of study courses and minimum requirements for state standards.

By means of these mandatory and discretionary restrictions the federal government has the power to influence many aspects of vocational education in the states, although according to Sections 1, 2, 3, and 4 it cooperates only in the support of the teaching and administrative personnel.

Financial restrictions. The Smith-Hughes Act placed more numerous and detailed restrictions upon the use of its appropriations than had any previous subsidy legislation. A reference to Sections 3, 5, 9, 12, 15 and 17, are indicative of those restrictions.

¹⁹Federal Board for Vocational Education Bulletin No. 1, Sections 1-15, pp. 17-57.

In addition to the financial restrictions, state action was limited in that while states were given a discretionary power in the selection of alternate propositions, these propositions were subject to the approval of the federal agency, as indicated particularly by Sections 5, 10 and 11.

While this Act contains most of the features developed in preceding subsidy legislation regarding legal and physical procedure it differs in the fact that funds are not payable in advance but instead payable as reimbursements of expenditures already made and approved.

The Act provides that the federal agency shall have the power to withhold allotments in order to obtain state compliance with federal regulations. Both federal and state reports are required by the provisions of the law.

Federal and State relationship. Of all the provisions of the Smith-Hughes Act those pertaining to the relation between the federal government and the state are among the most important. It is generally recognized that such relation is difficult to establish so that it will work ideally, because of the great diversity of traditions among the several states regarding education and the great differences in the desire for education. In enacting the vocational education law, Congress went much farther than ever before in setting up clear definitions and educational standards for states to follow in order to participate in the federal appropriations. Obviously more or less detailed prescription was necessary if a specific objective was to be accomplished, particularly so in view of the fact that vocational education and its relationships were by no means clearly understood by many educators. At the same time Congress made definite and ample administrative provision to guarantee that the intention of the legislation would be carried out. Sufficient authority was given to the federal agency for vocational education to control the expenditures of federal appropriations and confine them to the purposes contemplated.

One of the features of the movements which resulted from the federal legislation should be emphasized according to a statement included in Bulletin No. 15, 1933 on Federal Cooperation in Education. As pointed out by Blauch,²⁰ the

²⁰Blauch, Lloyd E., Federal Control in Agricultural Extension Work, Vocational Education and Vocational Rehabilitation, p. 131.

enactment of the Smith-Hughes Law cannot be said to represent a reaching out for authority on the part of the Federal government. On the contrary, it represents an effort by groups of citizens with definite ideas regarding vocational education, to promote the embodiment of those ideas in educational practices. Congress may be said to have responded to this appeal by setting up a program of federal participation with the states in the promotion of vocational education. Federal participation may be deemed authoritative by the states depending upon the interpretations placed upon the various sections of the law by the federal agency.

All federal subsidy legislation pertaining to education has had opposition, both before the passage of the measures and subsequently. The Fess-Kenyon bill of 1932 was an attempt to discontinue federal aid. It was only as a result of organized effort of those interested in vocational education that this bill was defeated. Nevertheless, federal aid was reduced as a result of the Economy bill of June, 1932. However, in view of the George-Deen Act which becomes effective July 1, 1937, and whose text may be found in the appendix, the future of federal subsidies for education would appear to be assured.

Early interpretations liberal. Due probably to economic conditions and the newness of some of the features of the law at the time of its inception, it might be said that the law at first was given a rather liberal interpretation. However, as conditions needing interpretation developed, restrictions became more apparent until at the present time we find some demand for a return to the broader interpretations. Some confusion as to the interpretation of certain phases of the law may have resulted from a rather hazy understanding of what constitutes vocational education. Once again the seemingly desired broader interpretations are probably the result of economic conditions with their effect upon the educational situation of youth. The authority for the above statements is found in the addresses of several of the outstanding leaders in the field of vocational education presented recently at meetings of the American Vocational Association and the Federal Board Conferences held in 1935 and 1936 respectively.

NEW DEFINITIONS AND INTERPRETATIONS AFFECTING TRADE AND INDUSTRIAL EDUCATION UNDER THE SMITH-HUGH AND THE GEORGE-ELLZEY ACTS.²¹ When the George-Ellzey Act was passed in

²¹Federal Board, Department of Interior. C.L. 1861. Office of Education, January 25, 1936.

1934 (an act to provide for the further development of vocational education in the several states and territories) many new problems were recognized and some changes in interpretations seemed desirable. A great deal of thought was given to the proposed changes both by members of the Trade and Industrial Education staff of the Office of Education and by experienced vocational education administrators from the various states. Acting upon the recommendation of various representative groups, the Commissioner of Education approved, for one year only, a number of definitions and interpretations affecting trade and industrial education under the George-Ellzey Act. After one year of experience with these new standards and after securing further advice from the state directors of vocational education, these definitions and interpretations with some slight modifications, were on January 25, 1936, approved by the Commissioner of Education for the current fiscal year. These definitions and interpretations apply to both the Smith-Hughes and the George-Ellzey Acts. Some of the questions and problems receiving new definitions and interpretations are as follows:

1. What is meant by the term "Trade and Industrial Pursuit?"
2. What are "Trade and Industrial Subjects?"
3. What interpretation should be made of the words, "supplementary to the daily employment"?
4. What is the meaning of the words, "practical work on a useful or productive basis"?
5. What is meant by "workers over 14 years of age who have entered upon employment"?
6. What are "part-time schools or classes"?
7. What are "evening industrial schools"?
8. How is "part-time pupil" to be classified?
9. What is meant by the phrase, "not less than 144 hours of classroom instruction per year"?
10. When is a program of trade and industrial education of "less than college grade"?

THE GEORGE-DEEN VOCATIONAL LAW

President Roosevelt on Monday, June 8, 1936 signed the George-Deen Vocational Law, its provisions becoming

effective July 1, 1937. This Law as it was passed by both branches of Congress and signed by President Roosevelt contains every provision recommended by the American Vocational Association.

The Law as finally approved by President Roosevelt includes the following features:

1. Authorization for an annual appropriation of \$12,000,000 for agricultural education, trade and industrial education and home economics education. This \$12,000,000 will be divided equally among the three fields.
2. Authorization for an annual appropriation of \$1,000,000 for teacher training in vocational education.
3. Authorization for an annual appropriation of \$1,200,000 for training for the distributive occupations.
4. Authorization for these appropriations on a permanent basis.
5. Fifty per cent of the federal funds may be used without matching until 1942.
6. A minimum allotment of \$20,000 per year for each state for each of the fields of agricultural education, trade and industrial education, and home economics education.
7. A minimum of \$10,000 per year for each state for training for the distributive occupations.
8. A minimum of \$10,000 per year for each state for vocational teacher training.
9. Training for public and other service occupations is included under trade and industrial education.
10. Appropriations may be used for salaries and necessary expenses of teachers, supervisors, and directors.

Appropriations provided under this act are in addition to the amount that is regularly provided under the Smith-Hughes Law.

FEDERAL BOARD FOR VOCATIONAL EDUCATION

The Commission on National Aid to Vocational Education, appointed by President Wilson in accordance with the provisions of an Act of Congress approved January 20, 1914, made definite recommendations as to how the program of vocational education that it proposed was to be administered.²² Numerous hearings were held to find out both the extent and the limitations of the various educational services that were being rendered by federal agencies, such as the United States Bureau of Education, in the Department of Interior; Department of Commerce; Department of Agriculture; the Navy Department; the Bureau of Labor of the Department of Labor, and the War Department. Each of these departments was furnishing information and advice or had charge of some aspect of education along special lines. The Commission found that in some instances very serious limitations existed that hampered the programs referred to in these hearings. As a result of the hearings and surveys and after due deliberation, the Commission proposed that a federal board for vocational education be established. This recommendation became a part of the National Vocation Act passed in 1917.²³

Federal Organization. The Federal Board for Vocational Education as thus authorized consisted of seven members, four ex-officio, including the Secretary of Agriculture, Secretary of Commerce, Secretary of Labor and the Commissioner of Education, and three appointed by the President for terms of three years expiring in rotation. It was provided that one appointive member must be selected to represent the interests of labor, one the interests of agriculture, and one the interests of manufacturing and commerce.

Congress placed certain definite responsibilities upon the Federal Board for Vocational Education, which included administration of the vocational education act and cooperation with the states in carrying out plans for vocational education under which federal aid was to be expended. No authority was vested in the Board to dictate plans or policies to the states. It was made a duty of the Board

²²Federal Board for Vocational Education Bulletin No. 15, 1933,
p. 213.

²³Report of the Committee on National Aid to Vocational Education,
Vol. II, p. 27.

to ascertain annually whether the several states were using or were prepared to use in accordance with provisions of the act the federal money received by them. The Board was authorized to disallow expenditures of federal money not made in compliance with the Act and was required to make an annual report to Congress on the administration of the Act and the expenditures of money allotted to each state. Also, the Board was required to make or cause to have made, studies, investigations and reports with particular reference to their use in aiding the states in their vocational education programs.

The Board was organized for work on July 21, 1917. In August it appointed Dr. Charles A. Prosser as director. Four assistant directors were also appointed, one each, for agriculture, industrial, and home economics education, and one for research. The following month a special agent for commercial education was employed.

Soon after its organization the Board adopted the plan of developing its administrative principles and policies in cooperation with officials representing the states. Several conferences were held in August 1917 for the purpose of clarifying in the minds of federal and state administrators various problems to be met and to make contact with the states the better to insure success. At these conferences the general policies were agreed to, which were afterward published as Bulletin No. 1, revised in 1922 and again in 1926. Tentative standards also, around which the first state plans submitted to the Board were built, were formulated at the conferences. As a result of experience and subsequent conferences, principles and practices have been modified and developed for the organization and administration of the vocational educational system.

During the period of its continuance as an independent office of the federal government, 1917-1933, the Federal Board held regular monthly meetings and special meetings as occasion demanded. The three appointive members devoted their full time to the work of the Board, and together with the Commissioner of Education constituted a standing committee of the Board to act upon matters referred to it in the interim between regular meetings of the Board. In evolving its policies the Board, presumably working in cooperation with State officials, established standards to be followed in developing and administering vocational programs.

The Vocational Rehabilitation Act of 1918 for soldiers and sailors was committed to the Federal Board for Vocational Education for its administration by Congress. The administrative staff was then organized under the director in three divisions; one for vocational education, one for research, and one for rehabilitation. The research division was later discontinued and its functions were vested in the several administrative services of the Board's staff. A division of industrial rehabilitation was organized in August 1921 as a result of the Civilian Vocational Rehabilitation Act approved in 1920. The division of soldier rehabilitation was taken over by the Veteran's Bureau thus relieving the Federal Board of Vocational Education of further responsibilities in the administration of this Act.

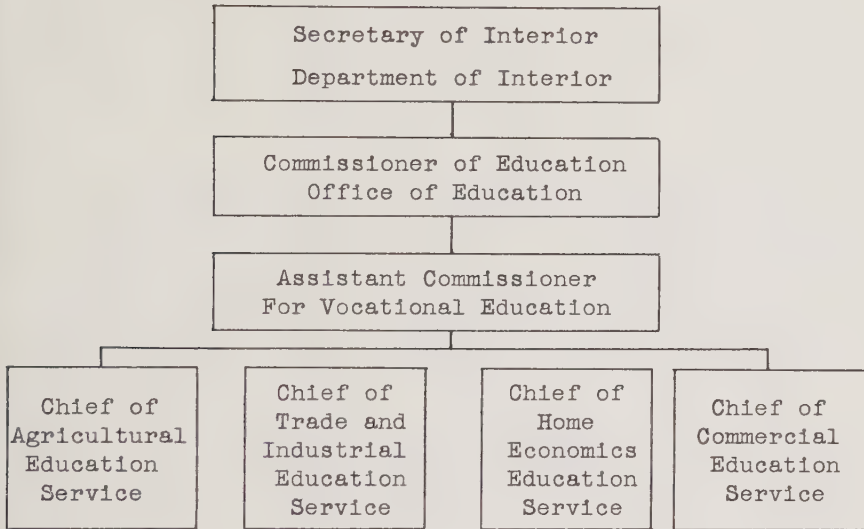
Discontinuance of Federal Board. By executive order of June 10, 1933, effective August 10, the functions of the Federal Board for Vocational Education were transferred to the Department of Interior, and the Board made an advisory board without compensation. On October 10, of the same year the Secretary of Interior directed that the functions of the Board be organized as a subdivision of education under the general supervision of the Commissioner of Education, who was directed to proceed with the necessary reorganization of the office of education..

Under the re-organization procedure the title of the director of the Board was changed to "Assistant Commissioner for Vocational Education" with no change in duties, and the staff organization and personnel continued without material change under the Assistant Commissioner. The re-organized staff set-up is shown in the accompanying chart.

To each of the four regional areas to which the country is divided are assigned, in the present organization as in the past, three agents for assisting state authorities in developing the vocational education programs; one each in the fields of agricultural, trade and industrial, and home economics education. In addition to the federal staff in each of the services working in these fields there are special agents not assigned to regions, who have been appointed for research, for special field service, or work with special groups. Similarly the Rehabilitation Service has four regional and one special agent.

The work of the staff of the Board includes participating in educational conferences of state administrators, supervisors, teacher trainers, and vocational teachers;

FEDERAL ADMINISTRATION OF EDUCATION
SHOWING RELATION OF
VOCATIONAL EDUCATION DIVISION



PERSONNEL IN OFFICE OF DIRECTOR SINCE THE FEDERAL BOARD
FOR VOCATIONAL EDUCATION WAS ORGANIZED²⁴

Year	Director	Tenure of Office
1917	Charles A. Prosser	August 15, 1917-Nov. 1, 1919
1920	Uel W. Lamkin	July 1, 1920-Aug. 10, 1921
1921	Lewis H. Carris	Aug. 11, 1921-Feb. 15, 1922
1922	J. C. Wright	Apr. 16, 1922-June, 1933
1933	J. C. Wright ²⁵	July 1, 1933

conducting vocational educational surveys; assisting in training state and local officials and industrial representatives to deal with special problems; assisting state staffs and industrial organizations in developing training programs; providing technical content for vocational courses;

²⁴From the Minutes of the Board through the courtesy of the Director, Dr. J. C. Wright.

²⁵In 1933 when Federal Board was discontinued, Mr. Wright became Assistant Commissioner of education in charge of Vocational Education and has continued in that capacity to the present time.

and conducting research and investigations in the problem of vocational education.

The federal office issues publications giving the results of its "studies, investigations and reports" made to aid the states in developing their program in vocational education and vocational rehabilitation.

NATIONAL COMMITTEE ON APPRENTICE TRAINING

Introduction. With increasing business activity, following the worst period of the depression of the 1930's, employers in many lines reported a scarcity of well-qualified skilled labor. Among the reasons advanced for the alleged shortage were the following: "the moratorium on training during the depression," the reduction of immigration, shorter hours, and the development of new industries.

It has long been recognized that in some occupations a definite program of apprentice training is necessary at all times. The problem becomes one of even greater importance today because of the four elements mentioned above.

For these reasons, employers, trade associations, trade unions, code authorities, educators, and others were faced with the responsibility of promoting this type of training. The need was recognized as of such importance that the president of the United States took action to aid the development of an adequate apprentice program.

History of the Program. The problems involved in training apprentices in the various states were so acute that a National Recovery Act Apprenticeship Committee was appointed and held its first meeting April 10, 1934. Mr. John J. Seidel of Maryland was Executive Secretary. As a result of their several meetings and deliberations an Executive Order and an Administrative Order were prepared. These Orders defined the term "apprentice," and prescribed rules and regulations governing apprentice training. This Committee completed its work on June 27, 1934.

On the above date, President Roosevelt issued Executive Order No. 6750-C prescribing rules and regulations for the employment of apprentices under National Recovery Act. This order provided for the establishment by the Secretary of Labor of minimum standards of apprenticeship and

for the appointment of a Federal Committee on Apprentices Training. This Committee was given the responsibility of:

1. Helping the state to inaugurate or continue programs in accordance with basic standards for apprentices training.
2. Assisting in the establishment of committees in each state authorized to organize and co-ordinate apprentices training in all its phases.

Present Status of Federal Committee on Apprentices Training: Authority. On June 15, 1935, after National Recovery Act was declared unconstitutional, the President issued Executive Order No. 7076 which continued in effect Executive Order No. 6750-C and extended the existence of agencies created by this order. Thus the Federal Committee on Apprentices Training is given sanction, both through Executive Order No. 7076 and Executive Order No. 7086 (National Youth Administration). The Secretary of Labor continued to authorize appointment of all members of State Committees on Apprentices Training, and also continued the powers and functions which were assigned to these committees.

The authority of State Committees to approve or cancel apprentices agreements or to adjust any questions arising thereunder between the master and apprentices is based upon the consent of the parties to the agreement, as conferred upon the Committees by stipulations which are a part of the apprentices agreements.

On June 26, 1935, the President issued Executive Order No. 7086, which established the National Youth Administration. The White House press release of June 26, 1935, listed apprenticeship as one of the activities to receive attention in this effort to meet the problems of unemployed youth.

On August 11, 1935, the National Youth Administration announced its decision to designate the Federal Committee on Apprentices Training and its affiliated State Committees as the agency for carrying on the apprentices phase of its program. The Committees were given entire responsibility for establishing policies and procedures and for administering apprentices training.

The relationship which had existed between the State Committees on Apprentices Training and the Federal Committee on Apprentices Training was maintained. The Executive

Secretary and staff continued to be responsible to the Federal Committee on Apprentice Training.

Permanence of the Program. The Federal Committee on Apprentice Training and its affiliated State Committees have adopted standards, perfected organization and outlined administrative procedures with the understanding that this program is of permanent rather than emergency duration. Inasmuch as apprentice agreements necessarily extend over periods ranging from one to five years it is obvious that programs for apprentices must be arranged on a long time basis. It is equally important that the administrative bodies responsible be flexible enough to permit administrative changes which experience indicates are desirable and necessary.

The program, as at present envisaged, provides for a Federal Committee on Apprentice Training and for a Committee on Apprentice Training in each state. These State Committees receive assistance from State Trade Advisory Committees and from local advisory committees whose personnel consists of representatives from the occupations in which apprentices are to be trained. The Federal Committee assists the States in planning programs which include a few fundamental standards that seem desirable for all states.

An important objective of the Committee is to give assistance in developing an apprentice training program which will be national in scope and of a sufficiently high standard so that a young person who has completed his apprenticeship will be eligible to work in any state which has an occupation identical with that for which the apprentice served an agreed amount of time and covered the agreed schedule of processes.

State Committees on Apprentice Training. Forty-three State Committees have been organized to be responsible for the supervision of the program in these states.²⁶ The personnel consists of representatives of the employers and of the employees of the state, the State Department of Labor, the State Board for Vocational Education, the United States Employment Service, and the National Youth Administration. Industry representatives have been selected upon the nomination of the various organized groups of employers

²⁶Federal Commission on Apprentice Training. Washington, D.C., December, 1935, Bulletin No. 2.

in the state and employee representatives are selected from persons nominated by state organizations of workers.

In this way the groups most intimately connected with apprentice training are represented on State Committees and are in position to give a great deal of assistance in the promotion and supervision of the program. Their efforts are supplemented by other groups and agencies which have frequent contact with either employers or prospective youth eligible and qualified to enter into an apprentice agreement.

Functions of State Committees. Experience has shown that development of apprentice training is largely a matter of education and promotion.

The functions of the State Committees are as follows:

- a. To encourage the use of acceptable standards of apprentice training by civic authorities, employer and employee groups.
- b. To help various occupations and industries determine and adopt schedules of training, wages, hours of labor, school attendance requirements, probationary period, provisions for issuing certificates of completion and length of the period of apprenticeship. It is expected that for each occupation the recommendations of advisory committees concerning minimum standards will be observed.
- c. To develop a program whereby designated city and local area representatives of the committee will be trained in the technique of making employer contacts and in getting the apprentice agreement written and prepared for the approval of the Committee.
- d. To provide leadership, instruction and assistance to all individuals and all agencies concerned with apprentice training.
- e. To protect and promote the cause of apprentice training in State legislation which may be under consideration.
- f. To delegate to qualified public employees authority to represent the State Committee.

Trade Advisory Committees. Local Trade Advisory Committees composed of employer and employee representatives, advise the State Committee upon such vital questions as the need for training apprentices, where apprentices should be trained, the number or ratio of apprentices to be allowed, the course of training which should be prescribed, the length of apprenticeships, standards of performance which the apprentice should meet before obtaining a certificate of completion, and other matters. Successful apprentice training must spring from a felt need expressed by an industry, and the details of the plan should be framed in accordance with the wishes of those actually engaged in the trade.

Since this movement is comparatively new and no adequate federal reports are available, little can be said about the general effectiveness of the program. However, a very definite program has been put into operation in Michigan, beginning in Detroit and now operating in several cities of the state. To this apprentice program has been added the Diversified Occupations program which is apprentice in character and which is closely affiliated with this state apprentice program. It would seem from the reports on the progress of these plans that Michigan is making satisfactory progress in apprentice training.

SUMMARY

The American tradition and practice of local autonomy in management of schools grew naturally out of the conditions of pioneer life in America. The frontier was characterized by the relative isolation and necessarily self-contained nature of community life. Hence was developed a unique and powerful habit of local responsibility and control which was so much taken as a matter of course that it was at first universally accepted as the only proper basis of federal relations to education.

From the Revolution to the Civil War, the Federal Government encouraged and financially aided education in the states. It endowed higher and common schools with land, and made grants of surplus tax monies; but it did not attempt to regulate the purpose, define the programs, supervise the teaching, or otherwise control public education in the states. Throughout this long earlier period, its spirit and its acts were in harmony with the principle of state and local autonomy.

With the Morrill Act of 1862, the Federal Government changed both its policy and procedure. Where before it had been solely interested in encouraging and aiding the states to provide educational facilities as a whole without emphasizing special phases of the curriculum, it now entered upon a program of stimulating and favoring with financial grants, specialized types or aspects of education in order to extend them rapidly throughout the states.

Every important federal educational act that has been passed since 1862 has followed the new trend of encouraging some special phase of education. These acts seem, in form and statement, merely to authorize cooperation with the states without apparent intent to interfere with the autonomy of states and local communities. In fact, however, the terms imposed and the administration procedures required by these acts seriously invade state and local control.

The extent of which Federal legislation has tended to remove final control of education from the states to the Federal Government may be indicated by citing the Smith-Hughes Act of 1917.

This Act requires the final approval of the Federal Board for Vocational Education for every state plan adopted. The plan must be initiated by a state, but it can be rejected by the Federal agencies. The Act requires the monies offered by the Federal Government shall be matched by the state or local governments or both. But Federal monies are not advanced. The state and the community anticipate the grant, spend their own money, and are reimbursed for the monies advanced provided the Federal authority believes standards are met. Minimum standards determining hours and minutes of instruction are set up in the Federal Acts and must be accepted by both State and Federal agencies. Subsequent Federal Acts and policies have tended to follow in the same vein as the Smith-Hughes Law with interpretations that seem to decrease the local control of education.

The increasing amount of Federal subsidies for education may be considered as an indication of the interest of the public in continuing and extending Federal support.

The George-Deen Act with its proposed appropriations is further indication that education can no longer be considered entirely a local problem.

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Chapter III

MICHIGAN LEGISLATION AND PLANS INTRODUCED BY THE STATE BOARD OF CONTROL FOR VOCATIONAL EDUCATION AFFECTING THE DEVELOPMENT OF INDUSTRIAL EDUCATION

As any federal movement is likely to be reflected in similar action in the states it is not surprising that, as federal legislation pertaining to industrial education developed in Congress, a parallel movement can be noted in many of our state legislatures. The federal laws discussed in Chapter II stimulated interest in vocational education in the states and led to the enactment of a number of state laws which were designed to aid in the cooperation between the federal and the state governments in promoting this type of education. No attempt is made here to give an exhaustive recapitulation of all such legislation. For example, the activity of the National Child labor Committee has succeeded in bringing about important modifications in laws affecting child labor and compulsory attendance, and has secured a more rigid enforcement of laws already on the statute books; but while this has an important bearing on industrial education, it cannot be considered here.

The state legislation with which we will be concerned is directly related to industrial education in the public school systems of the state.

Bulletin No. 12, issued by the National Society for the Promotion of Industrial Education in 1910, summarizes legislation concerning industrial education in Michigan.

Public Act 35, of the Michigan Laws of 1907, as amended by Acts of 1909, authorized the establishment of county schools of agriculture, manual training, and domestic economy. It provided for general supervision by the State Superintendent of Public Instruction, and for annual state aid equal to two-thirds of the local expenditure. The maximum aid provided for any one school was fixed at four thousand dollars.

It may be interesting to note that, according to E. E. Gallup, State Supervisor of Agricultural Education, schools under this Act were established at Dunbar, Michigan

and Menominee, Michigan. The Board of Supervisors were about to establish one in Delta County when Mr. Gallup came into his present office. They advised with him regarding it and he advised against the establishment of such a school in Delta County. Both of the schools established have disappeared. The school at Dunbar is now an experiment station for forestry under the direction of the State College. The plant of the school at Menominee is now used for a military academy. There are no county agricultural schools in Michigan at the present time.

Act 228, Laws of 1909, provided for a state commission on industrial education, including elementary training in agriculture.

Act 22, laws of 1911, empowered school districts to establish and maintain trade, vocational, industrial, marine, and manual-training schools, gymnasiums, and scholarships, and to accept gifts, legacies, and devices for the same. This, however, was merely an enabling act, and was intended to give a certain city the right to accept a bequest which had been made to it.

Act 29, laws of 1911, amended the law regarding county schools of agriculture, the State Superintendent being allowed to approve two such schools in each county instead of one.

Legislation which paved the way for the continuation school as later developed in Michigan is found in Section 10 of Act 285 of the Public Acts of Michigan 1909 and its subsequent amendments pertaining to the employment of children. This act provided for the creation of a department of labor; to prescribe its powers and duties; to regulate the employment of labor; to make an appropriation for the maintenance of such department, and to prescribe penalties for the violation of this act. Section 10, of this act states specifically the age at which children may be employed and makes provisions for granting permits to work. An amendment of this act adopted in 1917 provides that whenever continuation classes shall be established for minors under sixteen years of age working as now permitted by law, or out of school by permission to help at home, "every such child residing in any city in which such classes are established shall attend such classes not less than four hours per week and every employer shall allow all minor employees under eighteen years of age who have not completed the eighth grade, a reduction in hours of work of

not less than the number of hours the minor is by this section required to attend schools."¹

For five years previous to the passing of the 1917 Amendment mentioned above Detroit had provided a Girls' Continuation School under the direction of Elizabeth Cleveland. Since attendance previous to the passing of the amendment was seldom enforced, the introduction of the law constituted a problem for Detroit, the only city in Michigan that had established continuation classes. Miss Cleveland pointed out the problem in her annual report to the Board of Education for the year 1917. "The outstanding event of the year, from the standpoint of the part-time classes, is the passing of the state law requiring attendance at continuation schools."²

"Just how this law may be wisely enforced is a problem for thoughtful consideration. With our present facilities we should perhaps do better to aim for a greater stability of classes with merely a normal growth in numbers than for any sudden overwhelming increase in attendance, though the great development of continuation work in England since the war warns us to be prepared for a like situation. At any rate, the passing of the law is a step in the right direction. Our attendance this year has been larger than ever before, though we have had the same difficulties to meet in the continual shifting, the irregular grading, and the absence of legal compulsion. I feel that great credit is due the teachers who have conducted these classes with marked success for five years without a law."³

In order for the states to participate in the fund provided under the provision of the National Act providing for vocational education described in Chapter II, it was necessary for the states officially to accept the National Act. This Michigan did by passing the Tuft's Act described in Chapter IV.

The opinion has been expressed by A. S. Whitney, former Dean of the School of Education at the University of Michigan that the opponents to the measure had voiced their opposition in relation to the Smith-Hughes Bill and now that

¹National Society for the Promotion of Industrial Education, Bulletin No. 12, 1910, p. 12.

²Sixty-fourth Annual Report of Detroit Board of Education, Detroit, Michigan, 1917, p. 32.

³Ibid

that bill had become a law, the opponents to its acceptance by the state were not vigorous in their objections. It may be said, however, that those who opposed the bill did so on the ground that the bill was opening the way for Federal dictation of State policies in education.

FEATURES OF THE TUFT'S LAW

First, this Act accepted the provisions of the Smith-Hughes Law; secondly it set up the necessary administrative machinery for the carrying out of these provisions, the creation of a State Board, etc.

STATE PLANS FOR VOCATIONAL EDUCATION

A state plan was set up in the winter 1917-1918 by the State Board of Control for Vocational Education and was approved by the Federal Board for Vocational Education. This plan was revised and approved again by the Federal Board on September 13, 1922. The plan is contained in Michigan Bulletin No. 201 published by State Authority and discussed in Chapter IV.

THE JAMES LAW

Most Public Acts are a matter of considerable contention before they become a part of our statutes. Educational Acts are no exception. The James Act, providing for compulsory attendance of young workers at a special type of part-time school eight hours per week, had such a stormy career before it became a law. Dr. George E. Myers, pioneer in industrial education in Michigan was the promoter and father of the James law. Perhaps the best way to get the story surrounding the passage of this law is to have Dr. Myers tell it in his own words:

"I came to Michigan November 1, 1917 as Head of the Department of Vocational Education in the University and State Supervisor of Industrial Education. For three years before coming to Michigan I had been supervising voluntary continuation classes in the school system of New York City. In this connection I made an investigation of the need for compulsory continuation schools in New York. The year previous to beginning my work at New York City I had investigated industrial education in Europe, giving particular attention to the continuation schools in Germany. As a result of these experiences I was convinced that there was a genuine need in Michigan for compulsory continuation schools and soon began to plan a bill to be introduced in the next legislature providing for such schools.

"Soon after the Legislature convened in January, 1919, I had such a bill ready, basing it upon the law already in effect in Wisconsin and a bill which had been under consideration for some time in the State of Massachusetts. However, I was not acquainted with members of the Legislature and therefore asked President Hutchins for suggestions as to the best way to have the bill introduced. He referred me to a senator from Grand Rapids, a former student of his in the Law School. In conference with this senator I learned that it was best to have the bill introduced in the House, and preferably by a representative who was on the educational committee. It seemed wise also to select a man from Detroit, the principal city to be affected by the legislation. As a result of this conference arrangements were made with Representative James of Detroit to introduce the bill, which he did the next day. The bill was referred to the committee on education, a meeting of this committee was called, and I was asked to present arguments in support of it. There was a good hearing and considerable discussion but no action was taken by the committee. About a week later I went to Lansing to inquire what had been done with the bill and found that nothing had been done. However, another meeting of the committee was called and again I appeared before them. This time they voted to report the bill favorably, and it passed the House with a fair majority. When the bill went to the Senate I called the attention of the chairman of the Senate committee on education, Mr. Millen of Ann Arbor, to this measure, and he said that he would look after it. As a result of Mr. Millen's attention the bill passed the Senate without opposition and went to the Governor for his signature.

"According to the constitution of the state the Governor had ten days, Sundays excepted, in which to sign or veto the measure. About nine days after it went to the Governor a member of the House committee on education who had opposed the bill told me the Governor was going to veto it. The ten days passed and on the eleventh day an item appeared in the paper to the effect that the Governor had vetoed the bill. It occurred to me that possibly he had held it in his office one day too long, and that it had become a law in spite of his veto. Upon checking the matter up I discovered that unless spring election day, a state holiday, were treated as Sunday, this was the case. Since the Federal Constitution has exactly the same provision, I wrote the clerk of the House of Representatives in Washington inquiring whether a national holiday is treated as Sunday

under that clause of the Constitution. His answer was not entirely clear and I wrote him again, giving a hypothetical case. His reply this time was very definite, that under no circumstances was a holiday treated as Sunday in interpreting this clause of the Constitution.

"By this time the regular session of the Legislature had adjourned. I looked up Mr. James in Detroit and told him of the situation. He was much interested and said, 'There is a special session of the legislature coming in a few days. We had better keep still about this until the special session is out of the way. Otherwise the Governor may ask for the repeal of this law. However,' he said, 'I would like to check on this with the Attorney General and will present to him a hypothetical case, not mentioning this particular law, and see if I can get a decision from him.' Mr. James did this and the reply from the Attorney General confirmed the reply I had received from Washington.

"The very day that the special session of the Legislature opened an item appeared in the Detroit Free Press with the title 'Governor Wastes His Veto.' This item proceeded to tell that the James Law was the one on which the Governor's veto was wasted. He had held it one day too long in his office before vetoing it. The item added that the Governor was going to ask the Legislature to repeal the law.

"I went to Lansing immediately, hoping to see the Governor, but his secretary told me that the Governor was too busy with special matters coming before the Legislature and could not see me that day. He added, 'If the matter is coming up at all it will come up on Tuesday of next week. If you will leave me your telephone number, I will call you up later and let you know if the Governor plans any action on this measure.' I thanked him and returned to Ann Arbor. On Monday afternoon of the next week, having heard nothing from the Governor's secretary, I called him by telephone and he said, 'Yes, the Governor has written a message to the House of Representatives asking for the repeal of the James Law. If you want to see him regarding it, you will have to be up here before noon tomorrow.' I took breakfast in Lansing the next morning and arranged through his secretary for an appointment with the Governor at 10:00 A.M. In the meantime I talked with Mr. Gallup, State Supervisor of Agricultural Education, regarding my problem. He said, 'The Governor ought not to ask for the repeal of that law.

It is a perfectly good law.' 'Yes,' I said, 'I know it is--I wrote it myself.' Mr. Gallup went on, 'It isn't good politics for the Governor to do that. I worked for his election and I would dislike to see him make the mistake of asking for the repeal of that measure.' 'Well,' said I to Mr. Gallup, 'You are just the man I am looking for. Will you go in with me to see the Governor?' He said, 'Yes, I'll go.' At ten o'clock we went in together and the Governor gave us a very good hearing, spending more than a half hour with us. Mr. Gallup presented the political arguments and I presented the educational arguments. As we left the Governor's office he expressed the wish to see Mr. Gallup again in the afternoon. I drew my own inferences as to which arguments had been more effective.

"When Mr. Gallup came from the Governor's office in the afternoon he informed me that the Governor had torn up his letter to the Legislature and thrown it in the waste basket. I came home feeling that we had done a good day's work.

"On Tuesday evening of the next week, the third and last week of the special session, I received a telegram from Mr. Charles Sink, representative from Ann Arbor and member of the House committee on education, to the effect that the House had passed a resolution requesting the Governor to ask for the repeal of the James Law. I boarded the next interurban for Lansing and immediately upon my arrival conferred with Mr. Sink. We found that eight of the nine members of the House committee on education were attending the session. We knew that three were favorable to the James Law. We knew that four were against it, and the eighth man we knew nothing about and could not locate him anywhere. We knew that it would take five men to vote a favorable report on the measure which we knew would be referred to them the next day.

"When the Governor's message came, a repeal measure was introduced immediately and referred to the House committee on education, and a meeting of the committee called for one o'clock. I was nearby when the committee met. They called me in to present any arguments that I cared to present. A prominent member of the Board of Education from Detroit argued for repeal of the measure. However, the members of the Committee paid little attention to what either he or I said. Apparently all had made up their minds. After we retired, one of my friends made a motion that the bill be tabled. The vote stood four to four. Then one of

the opponents of the James Law made a motion that they report the bill out without recommendation. The vote stood five to three. The man whom we could not find the evening before voted with us in one case and against us in the other.

"The repeal bill was reported to the House that same day and passed with about the same majority that the original measure had received. It went over immediately to the Senate and I followed it. In talking with Senator Millen, to whose committee the measure was immediately referred, he told me that his committee would stand by him. 'Well,' said I, 'Do you know that the Senate will not take the bill away from your committee if you do not report it out?' He replied that he would find out and before I left Lansing, informed me that twenty-five of the thirty-two members of the Senate would support him. Senator Millen did not find it convenient to call another meeting of the committee on education before the close of the special session. The bill, therefore, died in the committee, and the James Law still stood.

"The law was to become effective on September 1, 1920, allowing more than a year to get ready for its enforcement. In the meantime Mr. K. G. Smith came to Michigan as State Supervisor of Industrial Education. He immediately proceeded to organize compulsory part-time schools under the James Act. By the time the next legislature met in January, 1921, many schools of this type were organized in the cities of Michigan.

"Within a month after the 1921 session of the Legislature opened, Representative George Welch of Grand Rapids introduced a measure providing for the repeal of the James Law. Mr. Smith and I immediately got busy and asked a hearing on this repeal measure. At the hearing were a number of school board members, city school superintendents, and employers of young workers, all arguing against repeal of the measure. The only opponent was Mr. Welch. It looked as if there was no prospect of the bill being reported favorably. Another hearing was held later, however, and the prospect was decidedly changed. In a few days the repeal measure passed the House under Mr. Welch's leadership and was sent to the Senate. At our request, hearings were held by the Senate committee on education but the committee reported in favor of repeal. On Thursday evening of the last week of the regular session the bill came up for a vote in the Senate. Mr. Smith and I had watched with

pleasure the departure for home of a senator from the Upper Peninsula whom we knew was in favor of repeal. When the vote was taken it stood fifteen for the repeal and fifteen against it, seventeen votes being necessary to carry a measure in the Senate. Naturally we were pleased with the outcome. I told Mr. Sink, who had supported the measure in the House in the previous session and was now a member of the Senate Committee on education, that I had some work to do in Ann Arbor and would return to the city for my next day's classes. He replied, 'You had better stay over until tomorrow. In case a bill fails by so small a margin, there is likely to be a move to reconsider it.' Mr. Smith and I worked that evening till after midnight, going over the roll call and selecting a few members of the Senate who voted with us and whom we feared might be won over to the other side, and a few members who voted against us, who might be won over to our side. The next day before the Senate convened we were tipped off to the effect that an effort would be made to have the bill reconsidered. We concentrated upon these few members. In the afternoon we sat in the balcony, we saw Mr. Welch circulating among our friends in the Senate and knew that the matter was coming up in a few minutes. We knew also that it would not come up unless Mr. Welch was sure he had seventeen votes. A vote was called on reconsideration of the repeal measure and naturally we watched the roll call with keen interest. When the roll call was completed it stood again, fifteen for reconsideration and fifteen against. Mr. Welch had actually won over two of our friends, but while he was doing this we had won over two of his.

"This ended the battle for the regular session of the Legislature, but again there was a special session which met three weeks later. This time we decided that compromise was the better policy. Before I could reach Lansing Mr. Smith had conferred with Representative Welch and agreed upon certain amendments that he wished to make, had inserted other amendments that we were interested in and with these changes the law was amended and Mr. Welch and other opponents were satisfied. No effort has since been made to change the law."

CHANGES MADE IN THE JAMES LAW BY AMENDMENTS

Attention is called to three specific changes in the

law by the amendments of 1921.⁴

a. The upper age limit of required attendance on the part of young workers was reduced from eighteen years to seventeen years. This amendment makes the age of required attendance correspond to the age of jurisdiction of the juvenile court in this state thus preventing difficulties which might have occurred under the old law. Under the law as enacted in 1919 law a boy who had become seventeen years of age might be a truant and yet no court would punish him for the offense.

b. Those who had completed two years of a high school course or its equivalent instead of a four-year high school course or its equivalent were exempt from attendance.

Some high schools had established two-year vocational courses. Graduates of these courses were now excused from attendance at a part-time school. Furthermore, since the great majority of part-time pupils had had less than a high school education, the attendance of a very limited number of advanced pupils complicated the problem of the proper elementary vocational and general education for a large number of part-time pupils.

c. Those subject to the law residing or employed within a district were required to attend. Some difficulty had been experienced in requiring attendance of those residing outside a district and working within it. The amendments removed this difficulty.

The amended law also exempted those who were married, the revised form reading "-----When a school district shall have established said schools or courses it shall require the attendance thereof of every unmarried minor under seventeen years of age residing or employed within the confines of said school district-----."5

The amended law became effective September 18, 1921, applying to every school district having a population of five thousand or more in which there were fifty or more minors under seventeen years of age who were not attending regular day school.

⁴For a complete interpretation of the amended law see Bulletin No. 212. Michigan State Board of Control for Vocational Education.

⁵Ibid.

MICHIGAN PLAN PROVIDING APPRENTICESHIP TRAINING FOR YOUNG PEOPLE

In the belief that there are young people in every city and in every school who want to learn a trade, a plan for apprenticeship has been developed under the Federal and State authorities which is intended to give young persons this opportunity. It is generally recognized that an employer cannot be expected to pay a journeyman's wage to a beginner or apprentice nor should he be allowed to pay a low wage to a beginner continuously and not give him real training for a journeyman's job.

In order to meet this situation and to make it possible for employers to take on apprentices at a reasonable wage, the United States Department of Labor and the National Youth Administration in cooperation with a state committee representing employers, labor and the State Department of Public Instruction set up a plan which provides a training program for apprentices. A Federal Committee on apprenticeship was appointed as part of this plan.

MICHIGAN APPRENTICESHIP COMMITTEES

The Federal Committee on Apprenticeship appointed in 1934 was transferred to and became a part of the National Youth Administration in 1935. At this time there was added to the Michigan State Committee on Apprenticeship a representative of the National Youth Administration and the Committee has since functioned in the state as a part of that organization. The original committee was made up as follows:

Henry A. Compeau, Chairman, representing the N.R.A.

415 Federal Bldg., Detroit

Frank Wade, Labor Commissioner, Lansing

Carl Dunklee, Re-employment Service

305 E. Michigan Ave., Kalamazoo

William P. Frost, Pres. State Federation of Labor

6120 Trumbull Ave., Detroit

Harry J. Kelley, Industrial Relations Manager

American Seating Co., Grand Rapids

M. A. Clark, Industrial Relations Manager

U.S. Rubber Co., 6600 E. Jefferson St., Detroit

Thomas Ross, Detroit Federation of Labor

310 Hofmann Bldg., Detroit

John C. Davis, National Youth Administration

703 City National Bldg., Lansing

K. G. Smith, State Supervisor of Industrial Education

Lansing, Secretary

This committee was later reorganized as the Michigan Coordinating Committee on Apprenticeship and Industrial Education and is constituted as follows:

George H. Fern, State Director of Vocational Education,
Chairman

K. G. Smith, Executive Secretary

Earl Bedell

M. A. Clark

Thomas Ross

Harry J. Kelley

William P. Frost

Frank Wade

John C. Davis

The committee assists in organizing apprentice training plans and furnishes standard blanks for apprentice agreements to individuals and firms wishing to employ apprentices in conformity with the basic standards set up. The program is flexible enough so that any firm can enter into it whole-heartedly. Contrary to the usual rule, standardization has been avoided with its required forms and procedures. Standard recommendations adopted by the committee covering every important phase of the work are given below:

1. Definition of an apprentice. A person sixteen years or more of age who has entered into an agreement with an employer or a group of employers which provides for the employment of such person and his participation in an approved program of training.
2. Supervision. Some one in the plant must be given the responsibility of taking charge of the apprentice program--to be supervisor--to insure proper foreman attitude, interest, and instruction. This person will see that apprentices are advanced and given the proper variety of experiences in each process, and that the right kind and amount of related instruction is given. He also acts as counsellor and maintains adequate records in permanent files.
3. Schedules of Processes to be Learned. A definite schedule of operations in the plant must provide a logical sequence of training. It is understood that it may not always be possible to route all apprentices through in accordance with the schedule, but it is suggested that the sequence be followed as closely as possible. It is also understood that the schedule of processes may vary by trade and individual firm.

4. Related Instruction. Related instruction schedule with subjects and time to be spent on each to be a part of the program. This instruction is to be given under the direction of the public educational authorities and flexible enough to allow for either Cooperative, Extension, or Plant School classes.
5. Compensation. It is recommended by the Committee that the general plan of wage payment in the community be uniform and that a minimum starting rate of 35¢ per hour with a 5¢ increase each six months be adopted if the apprentice is successful. This is optional in all cases.

A three month's probationary period is established to determine the fitness of the applicant for the type of job he is undertaking.

A reward for completing the course is entirely optional.

6. Coordination. Provision should be made for the reports on plant and school accomplishment and permanent records.

A weekly foreman's report to the supervisor and a quarterly report to parents by the firm is in effect.

7. Agreement. Indenture blanks are optional, but a written schedule of shop and school work, pay rate, length of apprenticeship, etc., is used.

A STATE PLAN FOR APPRENTICE COURSE IN DIVERSIFIED OCCUPATIONS⁶

A diversified occupations' course which was introduced in Michigan for the first time in September 1936, is another plan for the promotion of vocational training. It is expected that this course will enrich the curricula of the Secondary Schools and supplement the apprentice training program. It is particularly impressive in that it offers a training program which will equip boys and girls for occupational life in their community and at the same time enable them to complete a high school education. From a vocational standpoint the course provides a most practical laboratory and clinic. The first city in Michigan to accept the plan was Lapeer.

⁶Michigan State Board of Control for Vocational Education, Bulletin 231.

Plan of Operation. The plan of training is a co-operative arrangement between the school and the business and industrial concerns of the community. Students enrolled spend one-half of each week day during the school year in employment in a chosen occupation. While so employed, they are under the supervision of the school as well as of the employers. One-half of each day is spent in school. According to the plan, two full periods of the school's time each day is devoted to the study of related and technical subjects pertinent to the job in which the students are engaged. The remainder of the time may be used to pursue regular high school subjects. By this arrangement, regular high school graduation is also possible.

Entrance Requirements. The boys and girls desiring to enroll in the course should have completed at least two years of high school work and must be over fifteen years of age.

Local Advisory Committee. A general advisory committee should be organized to advise, counsel, and promote the general activities of the program. The committee should be composed of representatives of business and industrial leaders of the community. Also, one or more leaders from civic clubs and the school organization should be members of the committee.

Length of Courses. This type of course is designed to run for two years. In cases where occupations require more than two years' training for the completion of the apprenticeship, provision should be made with the original employer to complete the training. Two thousand clock hours of continued school and work experience are necessary for graduation. At least twenty hours each week must be spent in the occupation and at least ten hours each week must be spent in school.

Cost of Course to Local School Board. Funds have been provided by the federal and state governments for the operation of vocational training courses. It is recognized that an educational program cannot be carried on without some financial outlay. The cost, however, to the local communities for this type of program is low, because the school uses business and industrial establishments for laboratories. The teaching of related business and technical subject matter can be done in the school with very little additional

equipment or space. This arrangement is desirable because in addition to the low cost, it affords an opportunity for students to work with up-to-date equipment, methods, and processes. The cost to local school boards is reduced through the cooperative arrangement with the state and federal governments, whereby local communities are reimbursed in part for salaries of instructors and coordinators. The State Board of Control for Vocational Education reimburses the school board to the extent of a minimum of fifty per cent of the salary paid the coordinator in charge of the program. The balance of the coordinator's salary must be paid by the local school board.

Minimum Standards for Approval of the Diversified Occupations Course as Fixed by the State Board.

1. The course must be organized in accordance with the requirements of the State Board of Control for Vocational Education and be approved by the State Supervisor of Industrial Education.
2. An analysis of each occupation represented in the training program and a course of study for each must be submitted to the State Department of Vocational Education.
3. The course must be organized for a period of two years and each occupation represented must cover a training period of at least 2,000 clock hours of school and work experiences.
4. If all requirements are met and the course is recognized for high school graduation it may be approved to receive credit on the basis of two units for each year, with a maximum of four units for the work experiences covered during the two years.
5. The related subjects should be evaluated to cover not more than one unit for each year or a maximum of two units for the related instruction covered during the two years.
6. The coordinator must be approved and certificated by the State Board of Control for Vocational Education.
7. A list of all reference books and other instructional material must be submitted to the State Supervisor of Industrial Education.

A slight revision of the length of the course has been made to provide for apprenticeship periods of longer than two years, by continuing the course over the required period to complete the apprenticeship with the apprentice continuing the related work on a four-hour per week basis.

INDUSTRIAL EDUCATION PLANNING COMMITTEE

In order that industrial education may be closely correlated with other educational agencies of the state, the Department of Public Instruction considered it desirable to appoint a committee to assist the department. Therefore, Superintendent Eugene B. Elliott appointed a State Planning Committee on Industrial Education in March, 1935. This committee acts in an advisory capacity on important questions affecting industrial education in the state. Some of the responsibilities delegated to it are:

1. To assist in the promotion of vocational trade and industrial education in Michigan.
2. To raise the standards of trade and industrial education in the state.
3. To recommend the preparation of materials, bulletins, or other teaching aids which will be of benefit to the teachers of trade and industrial education subjects.
4. To validate such materials.
5. To assign research problems to persons or committees.
6. To recommend standards of certification of teachers of trade and industrial education subjects and assist with problems of teacher training.
7. To recommend courses of study, text material, and instruction material to be used in Michigan schools.
8. To assist with the formulation of policies affecting trade and industrial education.
9. To assist in the development of apprentice training.
10. To assist in the organization and development of such youth organizations as the Future Craftsmen of America.

At its first meeting the committee took up the question involved in the new rules and regulations regarding

the certification of industrial teachers. The second meeting was held in Jackson at the time of the convention of the Michigan Industrial Education Society. The members of the committee when first appointed are:

Earl Bedell, Assistant Director of Vocational Education
Detroit

E. Lewis Hayes, 4333 Twelfth Street, Detroit

Miss Ereminah Jarrard, 1930 Marquette, Detroit

A. C. Tagg, Director of Industrial Education, Fordson
High School, Dearborn

Harry Burnham, Supervisor of Industrial Arts, Flint

George B. Frazee, Davis Vocational and Technical High
School, Grand Rapids

Harold Van Westrienen, Director of Vocational Educa-
tion, Hamtramck

Deyo B. Fox, Principal, Technical School, Jackson

E. M. Hall, Director of Part-time School, Lansing

Frank McCrea, Principal, Wilson School, Muskegon

Joseph D. Bicknell, Director Hackley Manual Training
School, Muskegon

E. C. Russell, Director, Industrial Education, Pontiac

Floyd Allen, Principal, Arthur Hill Trade School,
Saginaw

Miss Ruth Sager, Technical School, Jackson

Russell H. Welch, Part-time School, Holland

George E. Myers, University of Michigan, Ann Arbor

SUMMARY

By the educational legislation passed in 1907, amended in 1909 and further acts passed in 1911, Michigan had paved the way for the establishment of industrial education. In 1911 Detroit had inaugurated industrial education of the continuation school type which is justified on the basis of Section 10 of Act 285, of the Public Acts of 1909. Therefore Michigan was ready for the Smith-Hughes Act when passed in 1917. The Michigan law known as the Tuft's Act was passed in the same year as the Smith-Hughes Law and accepted the terms of the Federal Act.

However, other Michigan acts were not as easily passed as the Tuft's Act as indicated by the efforts that were necessary to finally make the James Act a law in 1921. Since the passage of that act plans based on the act and previous acts, have developed which have furthered the cause of industrial education. The State Apprentice

Training Program, the program of Diversified Occupations, and the Committee for Coordination of Industrial Education are evidences of such plans.

REFERENCES

- Changes in the State Plan for Vocational Education. Department of Public Instruction. Lansing, Michigan.
- General School Laws, State of Michigan, 1921.
- Michigan Public Acts 1907; also 1909, 1911, 1917, 1919, 1921.
- Michigan State Board of Control for Vocational Education, Bulletin 212. The Compulsory Part-time Schools.
- Michigan State Board of Control for Vocational Education. Apprenticeship Training Program and Diversified Occupations, Bulletin 231.
- National Society for Promotion of Industrial Education, Bulletin No. 12, 1910.
- The Michigan Plan for Vocational Education Under Federal and State Laws, 1922. See also 1926 and 1928. State Board of Control for Vocational Education.

Chapter IV

STATE PLAN FOR MICHIGAN WITH PARTICULAR REFERENCE TO INDUSTRIAL EDUCATION

As noted earlier, if a state desired to avail itself of the funds provided for vocational education under the Smith-Hughes Act it was required to enact a Law accepting the provisions of the Federal Act, provide for state or local funds to match those which were to be received from the Federal Government and set up a state plan for vocational education. The Michigan Legislature was in session when the Smith-Hughes Law became effective and immediately took action which resulted in the passing of the Tuft's Act in order to meet the requirements of the Federal Law. By the terms of this act its provisions were limited to a period of two years.

The Legislature of 1919 re-enacted the Tuft's Law, Public Act 149 without limitation, continuing practically the same provisions as were included in the original act. Under the Federal and State enactments it was possible to develop vocational education by making use of the school systems already established and in operation in Michigan since 1837.

The Tuft's Act provided for a Board of Control for Vocational Education consisting of the Superintendent of Public Instruction, President of the State Board of Education, President of the Michigan State College, and President of the University of Michigan. The State Board of Control for Vocational Education was immediately organized and proceeded to the development of temporary plans for vocational training in the public schools. These plans were in operation during the year 1917-1918.

Early in 1918 that part of a permanent plan which dealt with industrial education was drawn up by R. J. Leonard, Federal Agent for the District including Michigan,

and Dr. George E. Myers, Chairman of the Vocational Education Department of the University of Michigan and State Supervisor of Industrial Education. Mr. Leonard was later identified in an administrative capacity with the University of California and Teachers College, Columbia University. Dr. Myers has continued as Chairman of the Vocational Education Department at the University of Michigan having been responsible in a large degree for the promotion of Industrial Education in Michigan. The Provisions of the State Plan affecting industrial education as prepared by Mr. Leonard and Dr. Myers were included in a bulletin published by the State Board and known as Bulletin No. 201.

Changing conditions have necessitated revision of provisions affecting budgets, types of teachers, and teacher-training courses from time to time, but this bulletin has been reissued several times under the same number with the principal features of the original plan unchanged.

Bulletin 201, gives the personnel of the State Board and sets forth its duties. The bulletin is intended to provide superintendents of schools and boards of education with full information in regard to types of vocational education that may be aided financially under Federal and State Laws. It suggests also desirable arrangements of rooms and equipment, and establishes standards for the teaching force necessary to comply with the provisions of the State and Federal Acts.

Every five years the State Board of Control for Vocational Education is required to submit to the United States office of Education a new State Plan which, of course, is the old plan brought up to date. The present plan expires June 30, 1937.

In discharging its duties the State Board is responsible for carrying out the provisions of the following Federal and State Laws affecting Vocational Education in Michigan.

1. Federal Smith-Hughes Act
2. Federal George-Ellzey Act
3. Federal Civilian Vocational Rehabilitation Act
4. State Tuft's Act
5. State Rehabilitation Acceptance Act
6. James Law (Part-time School Act)
7. Private Trade School Laws
8. George-Deen Act

In order to provide the machinery for the administration of vocational education in the state, the Board has set up an organization as shown in the following figure.

State director and supervisors are appointed for such periods as the Board may deem advisable and at such salaries as are established by the Board. To them has been assigned the responsibility of assisting superintendents of schools and boards of education in the state in organizing and developing programs of Vocational Education.

The qualifications and duties of the various officers are as follows:¹

A. Qualifications of Director

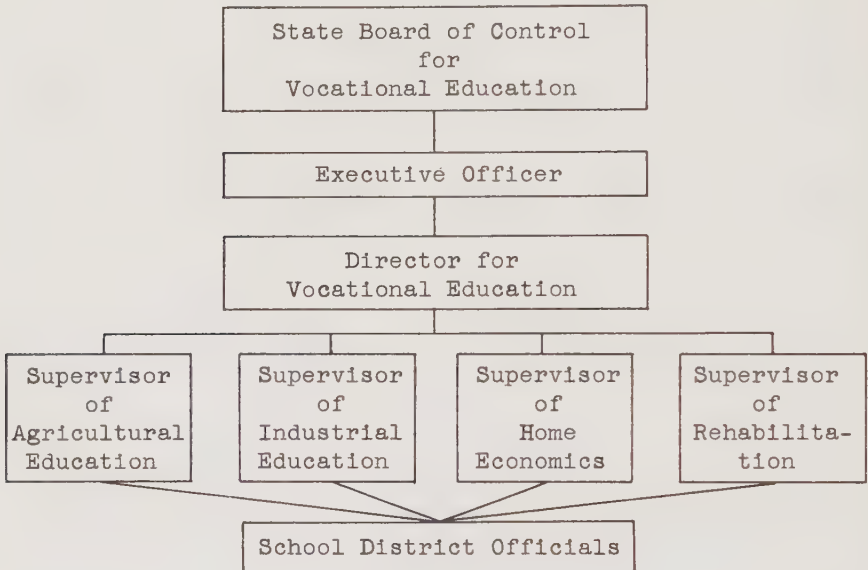
1. Must be a graduate of a college or university or have equivalent training.
2. Must have had a teaching experience of at least five years.
3. Must have had vocational contact and experience more or less in the several fields of vocational education.
4. Must have had as a part of or subsequent to college training, at least fifteen hours of education or its equivalent.
5. Must have had an administrative experience in the field of general education.

B. Duties of State Director

1. It shall be the duty of the State Director to: Cooperate with the executive officer of the Board in the preparation of plans for vocational education and in the preparation of suitable bulletins and other literature on the subject for the benefit of supervisors and teachers.
2. Make preliminary surveys of suitable localities where vocational schools may be established and advise with superintendents and boards of education concerning the requirements and necessities in order to comply with the law. When not possible for him to make preliminary surveys, he may request the several supervisors to assist in the work.
3. Have charge of the preparation of all blank forms, reports, and other printed material.

¹The State Board of Control for Vocational Education. Bulletin No. 201, pp. 10-12, 1922.

STATE ORGANIZATION FOR ADMINISTRATION
OF
VOCATIONAL EDUCATION



4. Counsel with the supervisors for each form of vocational education and assist them in the performance of their duties.
 5. Represent the State Board of Control for Vocational Education in conferences with members of boards of education and superintendents and when requested by the Board may represent it in state and national conferences on vocational education.
 6. Assist the executive officer in the administrative affairs of the Board, keeping proper records and making such reports as may be necessary from time to time and perform such other duties as the State Board may direct.
- C. Qualifications of the State Supervisor of Industrial Education.²

"The State Board will appoint a supervisor of

²Vocational Education, Bulletin No. 201, 1929. The State Board of Control for Vocational Education.

industrial and trade education and determine his salary. He shall have the following qualifications:

1. Must have had at least three years of practical working experience as a wage earner in a trade or industrial occupation.
2. Must have had at least two years' successful experience as a teacher of approved trade-preparatory or trade extension classes of the standard required in the State Plan.
3. Must have had at least three years experience in the administration and supervision of trade and industrial education of vocational grade.
4. Must be a graduate of an approved school or college have had equivalent training including as a part of, such training at least fifteen hours of college credit in Education or its equivalent including philosophy of vocational education, supervision and administration of trade and industrial schools, making and utilizing trade and job analyses for training trade teachers, and organizations of content for training courses, methods of training trade teachers."

D. Duties of State Supervisor of industrial education.

The State Supervisor of trade and industrial education, such duties as the State Board of Control, may direct and assist the director in the performance of his duties. The following duties specifically belong to him:

1. Visit the schools in trade and industrial departments which have been established, also trade schools authorized to operate under federal and state laws, and give careful inspection in all such schools concerning rooms, buildings, equipment, number of students, organization of instruction, local interest, cooperation with industrial organizations, and report to the State Board his approval or disapproval of such schools.
2. Make preliminary surveys and investigations concerning proper locations for the establishment of trade and industrial schools in cooperation with the director.
3. Prepare suitable bulletins and other literature essential to the promotion of industrial education,

organize teaching material to be submitted to the instructors, classify the several types of teachers and determine qualifications subject to the approval of the State Board.

4. Supervise all practical work undertaken by trade and industrial departments or schools and require the proper conduct and instruction in such work and make proper reports thereon.
5. Make suitable arrangement in cooperation with the teacher training institution for suitable teacher training of teachers in service in order that the several types of industrial teachers shall have the full advantage of the latest reports and investigations concerning their work.
6. Cooperate with the State Vocational Education forces and organizations to the end that they may render the best possible service.
7. Cooperate with the State Board and director in the preparation of courses of study, special bulletins and other material essential to the general welfare of industrial schools and shall do all things that in his judgment are necessary to promote the general welfare and the highest type of industrial instruction.
8. Submit an annual report to the State Board and such other reports from time to time as may be required in order that the Board may be thoroughly conversant with the conditions of the schools and perform such other duties in connection with industrial education as the State Board may direct.

E. Personnel of the State Staff.

Walter H. French of Michigan State College acted in the capacity of the State Director of Vocational Education on a part-time basis, until his death in 1923 when the office was combined with that of Executive Officer of the Board which was held exofficio by the Superintendent of Public Instruction. In 1933 the office of Director was separated from that of Executive Officer and L. H. Dennis was appointed Assistant Superintendent and Director of Vocational Education. Mr. Dennis came to Michigan from Pennsylvania. He continued to act in the capacity of Assistant Superintendent of Public Instruction in charge of

vocational education and secondary education until January 1934, when he resigned to become Executive Secretary of the American Vocational Association.

Mr. Dennis was followed by Dr. Paul Cressman who took active charge of the office on January 16, 1934. Dr. Cressman was also a product of the Pennsylvania Educational System.

On January 1, 1936, George Fern was called to fill the vacancy caused by the resignation of Dr. Cressman, who returned to the State Department of Education in Pennsylvania. Mr. Fern came to Michigan from Texas where he held the position of State Director of Vocational Education. He received his training both academic and industrial in Michigan and taught for a time in the Arthur Hill Trade School, Saginaw.

Dr. George E. Myers was the first State Supervisor of Industrial Education in Michigan. The State Board of Control for Vocational Education on recommendation of Dr. Myers brought K. G. Smith to Michigan in September 1920, when it became evident that the teacher-training work which Dr. Myers was carrying on at the University of Michigan needed his entire attention. A biographical sketch of Dr. Myers is given in Chapter V. Mr. Smith has been State Supervisor of Industrial Education since 1920.

PERSONNEL

The personnel of the State Board of Control for Vocational Education since 1917 follows:

1917-1918

F. L. Keeler, Supt. of Public Instruction
Frank Cody, State Board of Education
Harry B. Hutchins, Pres. University of Michigan
Frank Kedzie, Pres. Michigan State College

1918-1919

Thomas E. Johnson, Supt. of Public Instruction
Harry B. Hutchins, Pres. University of Michigan
Frank S. Kedzie, Pres. Michigan State College
Frank Cody, State Board of Education

1919-1920

Thomas E. Johnson, Chairman and Executive Officer
Fred Jeffers, State Board of Education
Harry B. Hutchins, Pres. University of Michigan
Frank S. Kedzie, Pres. Michigan State College

1920-1921

Thomas E. Johnson, Chairman and Executive Officer
 Fred Jeffers, Pres. State Board of Education
 Marion L. Burton, Pres. University of Michigan
 David Friday, Pres. Michigan State College

1921-1923

Thomas E. Johnson, Chairman and Executive Officer
 A. M. Freeland, Pres. State Board of Education
 Marion L. Burton, Pres. University of Michigan
 R. S. Shaw, Acting Pres. Michigan State College

1923-1925

Thomas E. Johnson, Chairman and Executive Officer
 Frank Cody, Pres. State Board of Education
 Clarence Cook Little, Pres. University of Michigan
 R. S. Shaw, Acting Pres. Michigan State College

1925-1927

Wilford L. Coffey, Chariman and Executive Officer
 Fred Jeffers, Pres. State Board of Education
 Clarence Cook Little, Pres. University of Michigan
 Kenyon L. Butterfield, Pres. Michigan State College

1927-1929

Webster H. Pearce, Chairman and Executive Officer
 A. M. Freeland, Pres. State Board of Education
 Clarence Cook Little, Pres. University of Michigan
 Robert S. Shaw, Pres. Michigan State College

1929-1931

Webster H. Pearce, Chairman and Executive Officer
 Frank Cody, Pres. State Board of Education
 A. G. Ruthven, Pres. University of Michigan
 Robert S. Shaw, Pres. Michigan State College

1931-1933

Webster H. Pearce, Chairman and Executive Officer
 Fred Jeffers, Pres. State Board of Education
 A. G. Ruthven, Pres. University of Michigan
 Robert S. Shaw, Pres. Michigan State College

1933-1935

Paul F. Voelker, Chairman and Executive Officer
 A. M. Freeland, Pres. State Board of Education
 A. G. Ruthven, Pres. University of Michigan
 Robert S. Shaw, Pres. Michigan State College

1935-1937

Eugene B. Elliott, Chairman and Executive Officer

Frank Cody, Pres. State Board of Education
A. G. Ruthven, Pres. University of Michigan
Robert S. Shaw, Pres. Michigan State College

F. Conditions Governing the Work in Teacher Training.³

The State Board, believing it to be desirable to make provision for the training of teachers, designated certain institutions as teacher-training institutions, set aside certain amounts of allotted funds for the purpose of maintaining such work and set up teacher-training qualifications. The following provisions are found in the State Plan as adopted in 1922 and continued with only minor changes until 1936:

1. "All courses for the training of vocational teachers shall be under the general control and supervision of the State Board of Control for Vocational Education.
2. Not less than 20% nor more than 60% of teacher training funds shall be spent for the training of any one of the following three types:
 - a. Directors, supervisors, and teachers of agricultural subjects.
 - b. Teachers of trade and industrial subjects.
 - c. Teachers of home economics subjects.
3. It is the intention of the State Board of Control to divide the teacher training funds in approximately the following ratio: agricultural subjects 30%; industrial subjects 43%; home economics subjects 27%.
4. Not more than 25% of the amount set aside for any one type of teacher training shall be used for maintaining supervision in that particular line.
5. Institutions for teacher training:

The State Board of Control designates the following as institutions to give teacher training:

- a. Michigan State College for the training of directors, supervisors, and teachers of agricultural subjects.
- b. University of Michigan for the training of teachers of trade and industrial subjects.

³The Michigan Plan for Vocational Education Under Federal and State Laws, Bulletin 201, 1922, p. 12.

- c. Michigan State College and the Michigan State Normal College for the training of teachers of home economics subjects.

Each institution thus designated is required to give suitable training and preparation for teachers of day schools, part-time schools and evening schools.

6. Reimbursement.

The institutions giving teacher training shall not use any of the federal or state funds for regular class instruction in any subject outside of actual professional training in educational subjects, that is, such funds cannot be used for class instruction in any technical subject but must be used solely for professional instruction. Teacher training institutions shall certify annually and before the close of the fiscal year their expenditures for teacher training purposes and shall be reimbursed for such expenditures from federal and state funds equally to the amount which they are entitled to receive, such reimbursement to be credited by the institutions to their current account fund."

G. Qualifications of Teacher Trainers.⁴

Any person appointed on the teacher training staff after June 30, 1926, is to have the following qualifications:

- a. A sufficient amount of industrial experience of contact to insure an understanding of the problems of the workers and of industry, usually represented by three years or more of practical experience.
- b. A sufficient amount of experience as a teacher or supervisor of trade-preparatory, trade-extension, or continuation classes which meet the standards of the State Plan to insure an appreciation of the teacher's problems, represented by three years or more of teaching or supervision of such classes.
- c. The equivalent of 30 semester hours or 540 clock hours in educational subjects including such subjects as
 - 1. Philosophy of Vocational Education

⁴The Michigan Plan for Vocational Education under the Smith-Hughes Law, Bulletin 201, 1929, p. 34.

2. Supervision and Administration of Trade and Industrial Schools
 3. Making and Utilizing Job Analyses for training trade teachers and organization of content for training courses
 4. Methods of training trade teachers
 5. Vocational Guidance
 - d. Such qualifications in general education as the teacher training institutions may require.
- H. General Rules and Regulations covering the Work done in Local Communities.⁵
1. "All schools in which vocational departments or classes are established under the direction of the State Board of Control for Vocational Education shall be such schools as are under public supervision or control and all institutions in which teacher-training for vocational teachers is authorized shall be state institutions.
 2. The controlling purpose of the vocational schools and departments established under the direction of the state board shall be to fit young men and women for useful employment in the several vocations for which instruction is maintained.
 3. All instruction in vocational schools or departments under control of the state board shall be of less than college grade.
 4. The instruction in each type of vocational school or class shall be of such a character as to be adapted to the physical and mental ability of persons over fourteen years of age who have entered upon or who intend to enter upon such vocations.
 5. The federal funds appropriated to the State of Michigan for the purpose of vocational instruction shall be matched dollar for dollar, the money being derived one-half from the state treasury and one-half from the treasury of local school districts except in the case of teacher-training in which case the money

⁵Michigan Plan for Vocational Education under Federal and State Laws, Bulletin 201, 1922, pp. 12-14.

shall be appropriated wholly from the state treasury.

6. The funds received from the federal treasury and from the state treasury shall be expended for the following purposes:
 - a. For salaries of teachers, supervisors, and directors of agriculture.
 - b. For salaries of teachers of trade, industrial and home economics subjects.
 - c. For the salaries of directors, instructors, and critic teachers in charge of vocational teacher-training and for the following items of maintenance connected with teacher-training; clerical service, light and heat, traveling, communication, rent, printing, supplies, janitor service, and miscellaneous items.
 - d. For traveling expenses for the state supervisors in each department."⁶

I. The various Types of Classes Conducted:

The five types of Smith-Hughes schools or classes provided for in the State Plan are as follows:

THE ALL-DAY UNIT-TRADE SCHOOLS OR CLASSES

The All-day Unit-Trade schools or classes are organized to train young men and women, 14 years of age and over, for specific trade vocations. This type of school or class is designed for cities of 25,000 population, or over, and offers thirty hours of instruction per week for not less than nine months per year.

The Smith-Hughes Law requires that one-half of the time be spent in practical work on a useful or productive basis. Thirty to thirty-five per cent of the time is spent upon the related technical subjects leaving the remainder, fifteen to twenty per cent of the time for academic or elective subjects.

GENERAL INDUSTRIAL SCHOOLS OR CLASSES

In cities of less than 25,000 population all-day industrial work is organized on a slightly different basis and may be approved for federal and state aid. The purpose

⁶ Ibid.

of these schools or classes is to train youth, 14 years of age or over, for advantageous entrance into any one of the groups of trades, rather than to train them for definite trade. Courses of instruction in general industrial schools or classes are conducted twenty-five hours per week for not less than nine months per year with the subject matter divided among shop work, related technical subjects and academic work in the same basis as it is in all-day unit trade work.

EVENING INDUSTRIAL SCHOOLS OR CLASSES

Evening classes are organized for students sixteen years of age or over, who are already employed and who desire to acquire further technical knowledge or manual skill in the occupation in which they are engaged. These classes may meet at any hour of the day provided they are held outside of the regular working hours of the student.

The purpose of evening schools and classes that receive federal and state aid must be to provide instruction or trade experience which supplements the day employment. Such schools and classes are trade extension in character.

PART-TIME SCHOOLS OR CLASSES

There are three principal types of the part-time schools or classes as authorized under the State Plan for Vocational Education:

a. Part-time General Continuation schools or classes that are intended as a means of facilitating extension of the interrupted general education of employed boys or girls under 17 years of age.

b. Trade-extension classes that are designed to provide instruction or shop experience supplementary to employment.

c. Trade-preparatory classes that are conducted for those who desire to prepare for some other occupation than that in which they are engaged.

APPRENTICESHIP CLASSES

These classes are designed to provide students with the related technical knowledge pertaining to the job in which they are serving as apprentices. The Michigan Plan and purposes of apprenticeship are discussed in Chapter III, page 49.

J. Course of Study.⁷

Bulletin 201 of the State Board of Control for Vocational Education makes suggestions for a typical course of study for each type of industrial class for which reimbursement is expected.

SUMMARY

In order to avail itself of benefits of the Smith-Hughes Law, 1917, the state of Michigan immediately passed the Tuft's Law. This law made provisions for the State Board of Control for Vocational Education. This board set up a tentative plan for the promotion of vocational education in the state, which was published in Bulletin 201. The bulletin has been periodically revised to meet the needs of changing conditions and to comply with policies suggested by the Federal Board for Vocational Education.

REFERENCES

- Public Acts of State of Michigan, 1919, Act 149.
State Board for Vocational Education, Bulletin 201, 1922.
See also 1926, 1929, Revisions.

⁷Michigan State Board of Control for Vocational Education, Bulletin 201, 1929, pp. 24-33.

Chapter V

THE INTRODUCTION AND DEVELOPMENT OF SMITH-HUGHES INDUSTRIAL EDUCATION IN MICHIGAN CITIES

In this chapter an effort is made to trace the development of industrial education, of a Smith-Hughes type, in the state from its earliest inception. Along with this there has been included enough information concerning the vocational education work that preceded enactment of the Smith-Hughes law to provide a background for what developed after 1917. The data upon which this chapter is based were secured from individuals in different communities who could tell, first hand, something of the progress of the work, from official records and reports in the office of the State Department of Public Instruction, and from records of the Boards of Education in the cities concerned.

It will be noted from the various tables concerning expenditures that certain items of local expenditures have been omitted. This is due to the absence of information on this question in some communities.

It was found to be difficult to obtain authentic data concerning the work in many cities. However, it is believed that the cities which furnished the information are typical of the cities in the state in which industrial education is carried on.

In order to avoid confusion which might result from attempting to present this material chronologically it was thought desirable to consider the history in each city by itself. For this reason the material has been arranged with the cities appearing in the main in the order in which the work was first introduced into their school systems.

CALUMET

Apparently the work in this city developed naturally out of the needs of the community.

Manual training existed in the schools of Calumet in the early 1890's, the exact record of its beginning having been lost when the high school burned in 1908. However, according to Mr. Carl Herborg, Director of Industrial

Education, the curriculum from the early 90's was more or less of an apprentice course designed to prepare mechanics for the shops of the copper mining companies. At this time men from the shops of the companies acted as teachers.

The records show that the work grew and, in 1913, a Mr. Diemer, of the Hibbing Mining Company was made supervisor. At this time there were four teachers in the high school and two in the grades teaching woodworking. Also, there was one teacher each for machine shop and forge work. These teachers were skilled workers at their trades selected from among the employees of the mines. As far as can be determined they were actually paid by the mining companies up to 1917 when the work in industrial education was taken over by the Calumet Board of Education. In view of these facts it is not surprising to find that practically all the work done in the shops during this early period was done for the mining companies which supported it.

According to Mr. Herborg the equipment of the shops and drawings rooms at the time when the Smith-Hughes law was passed was valued at \$15,000. In view of this it was possible for the school to qualify promptly for Smith-Hughes aid, as far as equipment was concerned, when the law began to operate. Thus the city was one of the first seven cities to participate in the federal aid granted under this law, Detroit, Grand Rapids, Lansing, Muskegon, Saginaw East Side and Saginaw West Side being the other six.

While the data on page 83 indicate the development of the all-day trade classes under the Smith-Hughes law in Calumet, it should be remembered that this type of work was carried on, even prior to 1900.

The data on the following pages indicate the yearly enrollments in Smith-Hughes classes in this city and the amount of federal, state and local money expended in carrying on the work.

The evening school type of class had been carried on for some time in Calumet, as it had been in other cities mentioned above, previous to the passage of the Smith-Hughes law in 1917. Therefore very little change was necessary in order for these cities to receive federal and state aid for evening industrial classes. The superintendents reported that the evening schools were begun quite generally as the result of a demand for classes for the Americanization of foreigners, but the demand for technical

and commercial Subjects grew rapidly and many of the Americanization classes were replaced by technical and commercial classes as early as 1915.

Day Trade School,* Calumet, Michigan

Year	Number Below 16	Enrolled 16 and above	Total	Reim- burse- ments	Remarks
1918					Trade courses
1919			51		to meet Smith-Hughes require- ment started 1917.
1920			51	\$4849	Times still prosperous after war. Plenty employment.
1921	54	46	96	4323	Depression set in, in copper country. Less employment. In- creased attendance.
1922	71	52	123	4106	Mines shut down. No employment. Rising attendance.
1923	80	59	139	4000	Mines began to open, employment small. Only youths above 18 employed.
1924	76	60	136	4147	Conditions improving.
1925	74	57	131	4861	Mining companies employing more
1926	67	43	110	4352	young people. Lot of fami- lies leaving copper country
1927	49	36	85	3533	for more prosperous places,
1928	54	38	92	3954	attendance drops again, ac- cordingly.
1929	53	46	99	3114	First years of depression in- creases in enrollment almost
1930	48	45	93	2484	100%.
1931	74	53	127	2826	P.W.A., W.P.A., C.C.C. took students.
1932	93	87	180	3333	A slight gain owing to
1933	98	77	179	3534	N.Y.A.
1934	77	76	151	3400	
1935	89	73	162	3417	
1936	94	72	167		

The large proportion of 16 years and over students can be accounted for mainly by the absence of industries other than mining and the fact that most pupils in trade classes are found in the 10th, 11th, and 12th grades.

*These data have been contributed by Mr. Carl Herborg, Director of Industrial Education, Calumet, Michigan from very complete and adequate records.

ADRIAN

According to the first annual report of the State Supervisor of Industrial Education, Adrian was the first school in Michigan to introduce general industrial classes under the Smith-Hughes law. These classes were begun in September 1918 under the direction of Mr. Omar Hall and were housed in an abandoned fire engine house, three blocks from the senior high school. All-day and part-time classes were organized and enrollment drawn from grades nine, ten, eleven, and twelve. February 1, 1919 Mr. Hall took charge of the mechanical drawing department and Mr. Arthur Warren, who is still in charge of Smith-Hughes classes was appointed director of Industrial education.

During that year part-time classes also were introduced and had a total enrollment of 118 students in Smith-Hughes work.

The all-day trade classes are still in operation but the part-time classes were discontinued in 1926 due to reduced enrollment.

By referring to the data on page 85 supplied from the school records by Mr. Warren, Director of Industrial Education, the consistent growth of this work may be noted. The 1935-36 enrollment is nearly double that of 1918-19.

MUSKEGON

Hackley Manual Training School was the first of its kind in Michigan and, at the time of its completion, February 1897, was believed to be the best equipped manual training school in the United States.

Although it is not our purpose to discuss Manual Arts, nevertheless, the general recognized influence of the Hackley Manual Training School on industrial education in Michigan and its pioneering in the field of industrial arts entitles it to a short resume of its history as told by Mr. Joseph D. Bicknell, who served on the staff of the school for over thirty years.

Mr. Hackley made many contributions to the welfare of Muskegon, but among these none perhaps more important than the Hackley Manual Training School. The following is a brief summary of the facts as presented by Mr. Bicknell a short time before his death in 1936.

Enrollment in Different Types of Smith-Hughes Classes
by Years in Adrian

Year	All-Day Trade	Part-Time		Total
	M	M	F	
1919	32	61	29	122
1920	27	54	17	98
1921	18	22	7	47
1922	24	19	17	60
1923	33	23	48	103
1924	32	42	37	111
1925	36	17	22	75
1926	32			32
1927	37			37
1928	38			38
1929	43			43
1930	43			43
1931	37			37
1932	42			42
1933	43			43
1934	51			51
1935	44			44
1936	55			55

Expenditure of Federal, State and Local Funds for Different
Types of Industrial Classes by Years, in Adrian

Year	All-Day Trade		Part-Time		Local	Total
	Fed.	State	Fed.	State		
1919	549.60	274.80	230.54	115.27		1,170.21
1920	794.55	397.27	797.63	398.81	4,237.00	6,625.26
1921	739.87	369.93	804.62	402.26	3,076.39	5,391.97
1922	284.30	142.15	295.42	147.71	1,765.52	2,635.10
1923	369.92	184.96	272.56	136.28	1,066.76	2,030.84
1924	320.00	160.00	287.30	143.65	1,120.00	2,030.95
1925	320.00	160.00	275.50	157.75	2,084.28	2,997.53
1926	674.80	337.40			1,187.80	2,200.00
1927	647.08	323.94			1,329.38	2,300.40
1928	666.80	333.40			1,499.60	2,500.00
1929	683.34	192.90			1,474.99	2,351.23
1930	624.00	312.00			1,664.00	2,600.00
1931	658.00	329.00			*	988.00
1932	650.00	325.00			*	975.00
1933	708.00	354.00			*	1,062.00
1934	528.00	264.00			*	792.00
1935	666.00	333.00			879.40	1,878.40
1936	944.00	472.00			982.88	2,398.88

*Information regarding local funds not available, therefore, totals represents federal and state funds only.

"Mr. Hackley believed in helping people to help themselves. He believed that boys and girls should be trained for a life they would live.

"In a communication to the Board of Education, of which he was president, he said, 'I trust that I may be pardoned for saying that while I am in the main in favor of a higher education for those whose means and leisure will permit, I am not unmindful of the fact that a large majority of the boys and girls who leave our grammar schools and even those who enter our high schools will be working men and women.

"I venture to express the hope you will take reasonable measures to secure reasonable provision for that education which will best tend to fit our youth for a good citizenship, and for an intelligent and faithful discharge of the varied duties of life; that they may cultivate frugality; that they may regard manual labor as honorable; that they may aspire to a high standard of character rather than wealth; that they may be moral in their lives, diligent in their pursuits; that they may become upright, self-reliant, zealous American men and women. If so, it will be the highest gratification I can experience to have contributed in some measure to that result of their training in the Muskegon Schools.'

"In October 1895 he made known to the Board of Education his intention of erecting, equipping, and endowing a building 'wherein the boys and girls of Muskegon might receive the best instruction available in the manual arts.' Plans were immediately drawn up and actual construction started in 1896.

"In 1897 the school which was named the Hackley Manual Training School opened its doors to students with a corp of four teachers. So rapid was its growth, however, that by 1900 conditions were becoming congested. Fortunately, the original building had been so planned that wings could be added on both the north and on the south sides without marring its architectural symmetry. Mr. Hackley immediately notified the Board of Education that it would give him great pleasure to furnish the means for the construction of these wings and a separate gymnasium building for both boys and girls. He also added sufficient funds to the endowment to care for the increased cost of operation. These improvements and additions were completed early in 1902. With the addition of these extra facilities

the Hackley Manual Training School became one of the outstanding schools of its type in the country.

"Muskegon High School, at that time, included grades eight through the twelfth. One hundred credits were required for graduation. Students who earned seventy-five academic and twenty-five manual training credits were awarded a Muskegon High and Hackley Manual Training School diploma; those who earned sixty academic and forty manual training credits were awarded a Hackley Manual Training School diploma; seventy-five academic and forty manual training credits entitled the student to both diplomas.

"A two-year course was also open to high school graduates who wished to prepare themselves to teach Manual Arts and Home Economics. This department was in operation from 1903 to 1918 and graduates are now teaching in all parts of the country. With the development of academic courses in these branches in the State Normal Schools, this department was discontinued locally.

"At the present time all students of the seventh, eighth, and ninth grades are required to take courses in industrial arts or home economics. In the senior high school the work is entirely elective. This semester, 1936-37 there are sixty-one units of advanced work given with an average enrollment in each class of twenty-seven."

Muskegon was the first city in Michigan in which shop work was recognized as a legitimate part of the school program. With the background established by the Hackley Manual Training School it is not surprising to discover that Muskegon was one of the early schools to establish Smith-Hughes classes of the all-day trade type and were carried on in the Hackley Manual Training School under Mr. Bicknell's supervision.

In September of 1920, Paul C. Stetson, then Superintendent of Schools in Muskegon, recognized the community's obligation to the youth, who for one reason or another were out of school. The State had acknowledged its obligation when it passed the act commonly known at that time as the James Law. Mr. Stetson sent Mr. Bicknell, then director of Hackley Manual Training School, and also Mr. Ben Peterson, Director of Attendance and Welfare, on trips through the eastern states to see what was being done where some advancement had already been made.

In September of 1920, Mr. Stetson engaged Mr. Frank H. McCrea, then City Supervisor of Industrial Education at McKeesport, Pennsylvania to take charge of the organization and development of the continuation or extension education movement in Muskegon.

An office was provided at the Hackley Manual Training School, and later a single classroom in the same building. Mrs. Genevieve Knight Bixler, a graduate from the University of Chicago, was employed to teach the related work in small groups, meeting each half day during the week. All persons attending the continuation classes met on Saturday morning for instruction in the shops of the Hackley Manual Training School and the Commercial Department of the High School. Regular teachers of the day schools were employed to teach these part-time people in the manipulative part of their work. A member of the Public School's Nursing Staff taught lessons in hygiene and first aid to the injured for the benefit of these employed young people.

This type of organization continued to function throughout the first semester of the first year of Muskegon's experience with continuation education.

Before the opening of the second semester of the school year of 1920 and 1921, the Board of Education had purchased the building of a defunct parochial school. The continuation classes were moved into this building, and the remaining space was used as a relief for the badly overcrowded high school. Mr. McCrea was made principal of the newly christened William H. Wilson School. For the balance of the first year the part-time classes continued to meet on Saturdays and afternoons at the Hackley Manual Training School and the High School Commercial Department.

With the opening of school in September, 1921, Miss Maudie Charlton, a commercial teacher and Mr. Arthur E. Turner, a practical man from industry were added to the staff, and a beginning was made in the establishment of shop and commercial instruction at the Wilson Building. The homemaking work continued to be done at the Manual Training School through the first semester of the second year. At the beginning of the second semester of 1922, Miss Alvina Hasse, a well-trained and experienced Home Economics teacher was attached to the staff and although she continued to use the equipment at the Manual Training School, all departments of part-time work were being conducted by a staff employed exclusively for that type of education.

During the third year, some equipment was obtained and a homemaking laboratory was set up at the Wilson Building, and for the next six years this type of organization continued to function with the emphasis distinctly on an employment extension basis and away from the general continuation line.

With the organization of the Central Campus in Muskegon in 1918 which provided for Junior and Senior High Schools the Wilson ceased to function as a relief for the High School, and a two-year vocational commercial department was established on a full-time basis. The Wilson School then became effectively a vocational school in its entirety and continued to function as such until June, 1931, when the full-time commercial department was discontinued in deference to the inclusion of a two-year commercial curriculum in the Junior College. In its place was provided a three-year preemployment industrial training opportunity of which the trainee might avail himself on any one of the following bases:

1. Full-time Trade Preparatory
2. Part-time Trade Extension
3. Part-time Cooperative
4. Evening Industrial Classes

This is substantially the organization of the school to date. The general conditions of the building, the equipment and the adequacy of each have gradually improved and the teaching staff at present is unquestionably the strongest that it has been at any time in the history of the school.

These and evening industrial classes were organized in the Hackley Manual Training School about 1918 and carried on under Mr. Bicknell's supervision, this work being in addition to the Smith-Hughes work described by Mr. McCrea.

DETROIT

In the Detroit school system there has been a healthy growth in training for certain of the more important trades since the establishment of some of this work of a preliminary character in Cass Technical High School in 1910. Separate units of instruction have been established from year to year, as definite needs became evident, until this part of public education has assumed a wide range.

90 DEVELOPMENT OF INDUSTRIAL EDUCATION IN MICHIGAN

Enrollment in Different Types of Smith-Hughes Classes
by Years in Muskegon

Year	All-Day Trade	Part-Time		Evening Industrial	Total
	M	M	F	M	
1919	0	0	0	242	242
1920	43	0	0	178	221
1921	89	91	137	169	486
1922	0	155	88	108	351
1923	99	0	0	24	123
1924	78	158	283	79	598
1925	119	107	93	38	357
1926	95	133	235	71	558
1927	61	285	296	42	644
1928	59	237	280	40	616
1929	69	304	291	34	698
1930	52	296	291	61	200
1931		272	236		508
1932	58	328	392	0	778
1933	63	299	302	56	720
1934	52	402	475	0	929
1935	45	548	442	120	1155
1936	28	471	291	163	953

Expenditure of Federal, State and Local Funds for Different
Types of Industrial Classes by Years, in Muskegon

Year	All-Day Trade		Part-Time		Evening Industrial		
	Fed.	State	Fed.	State	Fed.	State	Local
1919	391.58	195.79					
1920	1,909.59				694.66		5,708.88
1921	4,469.35		1,220.55				10,175.34
1922	2,858.32	1,429.16	2,265.18	1,132.59	159.00	79.50	16,087.66
1923	2,098.04	1,049.02	2,660.54	1,330.29	192.78	96.39	
1924	2,067.90		2,416.08	1,208.04	167.58		
1925	2,067.90	1,033.95	2,416.08	1,208.04	167.58	83.79	15,766.76
1926	2,426.76	1,213.38	2,587.34	1,293.67	128.80	64.40	11,864.65
1927	1,815.72	907.86	2,547.02	1,278.51	118.16	59.08	10,339.32
1928	1,908.80	954.40	2,534.88	1,267.44	111.54	55.77	11,876.75
1929	2,012.02	1,006.01	2,435.94	1,217.97	53.44	26.72	
1930	1,752.00	876.00	2,210.00	1,105.00	76.00	38.00	10,775.65
1931	1,876.00	938.00	2,192.00	1,076.00			
1932	1,932.00	966.00	3,710.00	1,855.00			
1933	2,060.00	1,030.00	2,760.00	1,380.00	82.00	41.00	
1934	970.00	485.00	3,184.00	1,592.00			
1935	1,136.00	568.00	4,984.00	2,492.00	790.00	385.00	7,089.63
1936	674.00	337.00	5,262.00	2,631.00	412.00	206.00	9,062.98

A great deal of credit for this development is due to the efforts of Mr. J. H. Trybom who came to Detroit in January 1900 as director of manual training. The staff at that time consisted of one shop teacher and one teacher of home economics. In 1920 Mr. Trybom was given the title of director of vocational education, and it became his duty to coördinate the activities of the rapidly developing program in this field. By 1937 the vocational education staff, including those working in industrial arts and home economics as well as trade and industrial subjects, numbered 515 teachers.

Aside from technical education provided at Cass Technical High School trade education is now provided by the Board of Education. The following schools are exclusively devoted to this type of education; Wilbur Wright Co-operative High School, George Junior Trade School and Building Trades School. Industrial education instruction is also given at six academic high schools in the city and vocational education for girls is provided at the Goldberg and Farrand Schools.

With the development of interest in preparation for specific trades, work of this nature was transferred in 1919 from the Cass Technical High School to other schools, while Cass Technical focussed its attention upon a more varied program of technical instruction on the secondary level.

Since these schools offer industrial training under several different plans it has seemed best to consider this education under the following heads. Senior part-time school, Junior part-time school, All-day Trade, Coöperative school, Evening schools, Girls' Vocational schools and Apprentice training.

In the different divisions of the above schools general training programs for those who wish to enter industry, and for those already employed who need further school instruction to advance in their chosen trades is provided. In all cases instruction is given in short unit courses and on an individual basis.¹ Pupils may enter at any time and leave when the required studies are completed.

Levels of instruction for any occupation are determined by the abilities of the pupils and the employment

¹ Handbook of Industrial Arts and Vocational Education. Detroit Board of Education, 1930, p. 72.

requirements in that occupation. The range of instruction extends from that which trains for production work to that which prepares for the work of junior engineers. None of the courses however, are designed to prepare pupils for college entrance, although some of the cooperative graduates may enter coöperative engineering colleges.

Senior Part-Time School. It appears from the 87th Annual Report of the Detroit Board of Education that the senior part-time instruction, begun on a small scale in 1910, became later the first type of instruction to meet the Smith-Hughes requirements. This type of instruction was intended for apprentices regularly employed.

Junior Part-Time School. The Junior part-time work² was begun in 1917 and was of the same type as that done after 1920 under the James Law. However, because of the limited time given to trade education, training under this plan was looked upon only as a possible help in securing apprenticeship training in the all-day trade classes. Therefore, in 1925, the Junior part-time group, consisting of 2,500 boys was moved to the George Junior Trade School, and groups in commercial work and printing, to the old Dickinson grade school. The following year, trade classes in painting and decorating were started.

All-Day Trade. Following the beginning made in trade dressmaking in 1914 by the Girls' Voluntary Part-Time school, the next development along this line in Detroit was the all-day trade class started in 1919 at Northwestern High School. Detroit was the fifth school system in Michigan to establish all-day trade classes under the Smith-Hughes law. According to a survey³ made in 1920 by the Department of Industrial Education of the University of Michigan, Detroit was just then setting up its program of all-day vocational classes and at that time one course in machine shop for boys and courses in dressmaking for girls were the only courses that might be classified as all-day trade courses. However, technical courses were being offered in Cass Technical High School, and other vocational courses were proposed that later developed into the strong program offered by the vocational schools of the city of

² 87th Annual Report. Detroit Board of Education, 1930, p. 141.

³ Unpublished Report. Industrial Education Department of University of Michigan, 1920.

Detroit. It was during this survey that a plan presented by Mr. Trybom for a high school of trades and industries was recommended by the Survey Committee, but such a school did not develop until later.

With this beginning in 1920, trade preparation expanded to the point where in 1928 three buildings were necessary to accommodate the 14,000 students who were enrolled in all-day trade, part-time, and coöperative classes. All-day trade classes alone have over 1,700 students, boys and girls, enrolled in 1935.

The continued growth in enrollment of students in all-day trade classes and the consequent federal and state reimbursement shown in the accompanying data are indicative of the progress made in this field. Since the establishment of the Wilbur Wright Coöperative High School, completed in 1930, the enrollment has increased materially.

The Wilbur Wright Coöperative High School.⁴ This school was founded at the request of a group of employers from the industries of Detroit. Coöperative education on the high school level was authorized by the Board of Education and Superintendent Cody on May 27, 1928.

"On the following day a group of thirty-five boys began in the old Dickenson School at Twelfth and Calumet. By July 1, the number had increased to seventy, all of whom were placed with coöperating firms, working alternately two weeks in school and two weeks in factory.

"During the first two years of coöperative work, classes were held in the Dickenson school, in Cass Technical High School, in the College of the City of Detroit, and in the Motor Transport Building.

"After the Dickenson school fire on election night on November 1928 the classes from that building were moved temporarily to the George Junior Trade School. A request was made for a new building to be erected on the Dickenson site, and a sum of \$256,000 was allowed for that purpose. Work on this project started July 1, 1929, and the building was open for occupancy on January 27, 1930.

"All the scattered groups were housed in this new building, with an enrollment of 280 students. The present

⁴Wilbur Wright Coöperative School, 1936.

enrollment, including coöperative, all-day trade, senior trade students is 765 and the evening classes bring the total to 1,200.

"The various courses offered in the school were organized at the request of Detroit industries and sponsored by them.

"The Wilbur Wright School is a coöperative High School planned to provide work experience together with the shop and related knowledge necessary to prepare a pupil for entrance into industry. This is done by maintaining a job with some one of Detroit's industries during the last two years the student is in school.

"Two apprentices are required to work on one job, because the two alternate with each other on the same job. While one boy of a pair is working and being paid by his employer his alternate is attending school without pay. The alternating period is two weeks in duration (continuous over 48 weeks per year), for those pupils who are employed. All pupils are entered in the school full-time until they demonstrate their fitness and until employment can be secured. At present, the following trades are taught at Wilbur Wright in All-Day Trade, Part-time, and Part-time Co-operative Classes: machine shop, tool and die making, auto mechanics, printing, business and distributive trades and steam engineering."

Evening School. While these various types of industrial education for young people were developing rapidly in Detroit, adult education of an industrial type also made progress.

Detroit carried on evening-school classes several years previous to the passage of the Smith-Hughes law and therefore was one of the first cities to qualify for reimbursement for evening school instruction under that law. The enrollment in evening schools in 1914 to 1917 was made up quite largely (about 40%) of individuals seeking citizenship. The remaining 60% being divided among (1) those seeking a continuation of their regular schooling; (2) those needing help to increase their earning power; (3) and those desiring to equip themselves for a career.

A report made by the Industrial Education Department of the University of Michigan in 1920 stated that "the evening schools of Detroit offer a number of courses which

are vocational and technical in character." Consequently it is not surprising to find that in the year 1918-19 Detroit had an enrollment of over 3,000 students in Smith-Hughes reimbursed evening industrial classes. Growth of this work is shown in the data presented on page 96.

Girls' Vocational Schools. This work was started as early as 1911 when a part-time school was established for girls in employment. As previously stated a full-time trade dressmaking school was established in 1914. However, it was not until 1923 when this trade dressmaking school was moved to the Farrand School that the real program of vocational education for girls was begun. In 1928 a second unit of the full-time school was organized at the Goldberg School.

In 1936 an average weekly membership of 1,200 girls was recorded. Three-fourths of this membership were enrolled on a full-time basis and the remainder on a part-time basis.

Two-thirds of the curriculum of these schools is devoted to the vocational subjects and trade activities. The remaining third is given over to the so-called cultural or general subjects.

Apprentice Training. Detroit has also made definite progress in the establishment of an apprentice training program. Mr. O. F. Carpenter, Director of Apprentice Training, reports that "on October 27, 1935,⁵ the manufacturers of Detroit put themselves on record as being in favor of an apprentice program." On November 1, 1935, definite action was taken by appointing a director of apprentice training as a member of the staff of the Employers' Association of Detroit. Since November 1, seventy-four firms have aligned themselves and either submitted or approved programs involving over 600 apprentices. There is now a definite plan of apprentice training in effect, classes are in action and supervisors are in charge of groups in the plants.

The data that follow indicate quite clearly the erratic interest in the part-time type of class as well as the steady and consistent growth of the all-day trade and

⁵Bulletin I-Vol. I, 1935-36. Department of Vocational Education, Detroit, p. 17.

Enrollment in Different Types of Smith-Hughes Classes
by Years, in Detroit

Year	All-Day Trade		Part-Time		Evening Industrial		Total
	M	F					
1919			1,554	1,257	2,911	244	5,966
1920	56		1,779	1,220	2,769		5,824
1921	21		1,086	573	3,538		5,318
1922	73		600	1,188	5,611		7,472
1923	161	76	3,407	3,058	491		7,193
1924	222		3,594	3,605	7,795		15,216
1925	262	44	9,145	1,187	6,630		10,268
1926	248		1,241	4,796	7,184		12,469
1927	337	136	4,297	3,961	6,429		15,160
1928	409	388	3,854	3,804	7,828		16,273
1929	422	158	4,241	3,238	8,464		16,523
1930	316	373	3,247	2,543	9,856		16,345
1931	818	493	3,146	2,449	9,569		16,475
1932	1,225	591	1,845	2,453	4,288	25	10,627
1933	1,373	536	2,433	2,366	7,585		14,293
1934	1,014	703	1,248	737	6,339	22	10,063
1935	2,534	214	1,016	1,526	9,639		14,929
1936	2,753	822	1,390	1,351	9,336	16	15,668

Expenditures of Federal, State and Local Funds for Differ-
ent Types of Industrial Classes by Years, in Detroit

Year	All-Day Trade		Part-Time		Evening Industrial		
	Fed.	State	Fed.	State	Fed.	State	Local
1919	3,789.46	1,894.73	6,453.76	3,226.88			*
1920	1,210.36		8,290.67		6,993.40		43,918.57
1921	10,000.00		10,000.00				63,359.90
1922	966.66	482.33	11,755.90	5,877.95	4,100.00	2,050.00	96,161.62
1923	2,269.50	1,134.75	10,796.94	5,398.47	6,298.24	3,149.12	
1924	**						
1925	2,947.06	1,473.67	14,989.00	7,494.50	5,565.34	2,782.67	104,439.04
1926	4,763.06	2,381.53	23,565.94	11,782.97	8,834.40	4,417.20	111,036.29
1927	7,235.28	3,617.64	28,989.38	14,494.69	8,179.58	4,089.79	106,169.69
1928	9,252.62	4,626.31	29,151.16	14,575.58	8,357.40	4,178.70	122,068.61
1929	8,571.64	4,285.82	24,776.34	12,388.17	9,762.56	3,881.28	105,191.89
1930	10,990.00	5,495.00	23,732.00	11,866.00	10,306.00	5,153.00	120,217.86
1931	14,412.00	7,206.00	21,376.00	10,688.00	10,140.00	5,070.00	
1932	16,644.00	8,322.00	17,118.00	8,559.00	6,200.00	3,100.00	
1933	18,652.00	9,326.00	25,228.00	12,614.00	7,708.00	3,954.00	
1934	16,424.00	8,212.00	18,336.00	9,168.00	10,068.00	5,034.00	
1935	23,986.00	11,993.00	27,834.00	13,917.00	15,628.00	7,814.00	69,831.20
1936	29,272.00	14,636.00	30,712.00	15,356.00	11,574.00	5,787.00	82,652.25

*In cases where local funds are not indicated the total represents federal and state aid only.

**Date records inaccurate.

evening classes. It would seem from the data given here that the trend in industrial education in Detroit has been distinctly toward these two types of training.

SAGINAW

According to the records obtainable Saginaw, East Side was the first city in Michigan to establish a public trade school. An examination of the records of the Board of Education shows that, in 1909, the Honorable W. R. Burt offered to furnish the Board of Education of the East Side with \$2000 with which to pay the cost of a trade course for one year. When the matter came up for consideration before the Board, a petition signed by fifty-six machinists opposed the establishment of such a course on the ground that it would flood the labor market with inexperienced workers. The discussion aroused led to the calling of a public meeting for the purpose of considering the matter. At this meeting the Board was empowered to accept Mr. Burt's offer and to proceed to establish a trade course of the type needed.

Mr. Burt later gave a large sum of money to the school system for the Burt Manual Training School.

The aim of this course was to teach the machinists' trade, the training period being spread over three years. This effort marked the beginning of all-day trade education in Saginaw, East Side.

In 1913, shortly after the acceptance of Mr. Burt's offer, the trustees of the Arthur Hill estate transferred the site for a trade school to the Union School District. Mr. Arthur Hill had provided in his will for a gift of \$200,000 for establishing an industrial school to be conducted in connection with the public schools. \$75,000 was to be set aside as a permanent endowment toward the support and maintenance of the school and the remainder towards the erection and furnishing of the building for the purpose of such a school.

This school was completed September 23, 1913 and named the Arthur Hill Trade School in honor of the donor. This school is located in what was then known as the West Side School District.

It was desired by the donor that the school should provide opportunities for training in the trades common to the city of Saginaw. In order to carry out this wish there

have been developed in the school industrial classes of the all-day and evening school types. These classes are doing much to serve the community by selecting people suitable for industrial work and by training them to participate more effectively in the various trades taught in the school.

Saginaw has maintained evening industrial classes since the opening of the Arthur Hill Trade School in 1913, and, since 1918 has received Smith-Hughes funds for such instruction with the exception of the year 1934 as indicated in the records.

The data that follow show only the enrollments since the classes became eligible for federal and state reimbursements under the Smith-Hughes law. However, according to the records of Mr. Allen, present principal of Arthur Hill Trade School, there were ten girls and nine boys graduated in 1915; four girls and seven boys in 1916; eight girls and four boys in 1917; and ten girls and six boys in 1918. From 1918 on the records follow.

GRAND RAPIDS

Grand Rapids was one of the early cities in Michigan to provide the type of education subsidized by the Smith-Hughes law. In September 1919, Mr. George B. Frazee and Miss Elizabeth Burbank were engaged to make a survey of the city for the purpose of discovering what types of vocational education should be provided. At the end of the year recommendations were made concerning the trades to be taught, the curriculum, and the building.

In January 1920 the Grand Rapids Vocational School was opened on Bostwick Avenue in two residences and a garage which had been remodeled to meet the requirements for carrying on a training program.

All-day, part-time, and evening classes were carried on from the beginning although this year, 1936-37, the evening school work has been discontinued on account of lack of funds. The school opened with an enrollment of fifty all-day and about four hundred part-time pupils. It grew so rapidly that before the end of the first semester two more buildings were purchased and remodeled for school purposes.

In 1922 part of the present building was constructed, the remainder being added in 1929. In the latter year

Enrollment in Different Types of Smith-Hughes Classes
by Years, in Saginaw

Year	All-Day Trade		Part-Time		Evening Industrial		Total
	M	F	M	F	M	F	
1919	119	47	33	0	127	9	314
1920	92	65	10	3	248	0	430
1921	156	28	234	121	44	0	479
1922	201	0	119	257	84	14	789
1923	128	0	510	264	109	25	841
1924	117	0	334	369	202	15	1055
1925	139	5	405	222	161	0	881
1926	142	4	626	523	193	16	1407
1927	201	0	286	296	116	25	963
1928	235	0	315	281	102	0	904
1929	221	0	296	309	162	18	1025
1930	235	0	0	256	239	21	1047
1931	245	0	180	202	0	0	627
1932	286	0	306	160	15	26	632
1933	287	0	270	190	151	19	807
1934	233	0	0	160	0	0	663
1935	284	0	0	0	217	22	523
1936	284	0	0	0	126	23	433

Expenditures of Federal, State and Local Funds for Different
Types of Industrial Classes by Years, in Saginaw

Year	All-Day Trade		Part-Time		Evening Industrial		
	Fed.	State	Fed.	State	Fed.	State	Local
1919	293.82	1,467.40	162.00	81.00			
1920	5,720.77		807.57		895.38		
1921	2,358.72		1,196.73		90.72		15,484.00
1922	3,129.50	1,564.75	2,123.94	1,062.87	240.54		5,226.74
1923	2,802.16	1,401.08	3,444.96	1,722.33	353.26	120.27	16,209.29
1924	2,577.84	1,288.92	3,372.60	1,686.85	803.88	176.69	4,692.36
1925	2,577.84	1,288.92	2,373.60	1,686.75	545.38	401.94	
1926	3,810.94	1,905.47	4,739.64	2,419.82	294.68	401.94	18,356.52
1927	3,294.44	1,647.22	3,620.66	1,810.33	255.00	372.69	17,988.38
1928	3,751.08	1,875.54	2,736.18	1,368.09	390.32	147.34	25,811.22
1929	4,232.04	2,116.02	2,646.04	1,323.02	460.00	127.50	26,969.82
1930	4,528.00	2,264.00	1,884.00	1,942.00		195.16	18,445.40
1931	4,930.00	2,460.00	2,000.00	1,000.00	74.00	230.00	
1932	5,814.00	2,907.00	1,874.00	937.00			
1933	5,784.00	2,892.00	2,098.00	1,049.00	402.00	37.00	
1934	4,108.00	2,054.00	870.00	435.00		201.00	
1935	6,378.00	3,189.00	7,562.00	3,781.00	1,260.00	630.00	16,578.64
1936	7,872.00	3,936.00	6,672.00	3,340.00	900.00	450.00	19,443.58

Mr. George A. Davis, president of the Board of Education, who had been the real moving spirit in the development of the work, formally laid the Keystone of the arch over the main entrance.

As time passed a change in emphasis took place in the school. At first the sole purpose was to train mechanics without reference to any high school curriculum. Later, however, high school entrance requirements were set up and in November 1929, the name of the school was changed to the George A. Davis Vocational and Technical High School.

This raising of standards made it impossible for certain young people to fit into the program so, in 1927, a new type of school was established in Grand Rapids. The purpose of this school is set forth in the following statement by Mr. Reuben Green, Principal.

"The Junior Vocational High School, Grand Rapids, Michigan was established in September 1927. At that time there was quite a large number of retarded boys and girls from fourteen to seventeen years of age in ungraded rooms scattered over the city. Putting these retarded pupils in ungraded rooms removed the 'clinkers' from the grades, but did not change the curriculum for the retarded and uninterested pupils. When these pupils were brought to Junior Vocational High School, they were given at least three hours a day in some form of manual activity. The other three hours were given to class activities in English, arithmetic, science, citizenship, art, gymnasium, and music. The shop activities offered were metal and machine shop, handcraft, printing, shoe repair, tire repair, and broom making. At the end of one year broom making was dropped, as it appeared to be too difficult for our boys.

"In the classroom work the pupils were placed in groups according to their learning ability and given work they could succeed at. It was thought that if an anti-book-minded pupil was given opportunities to develop what mechanical and practical gifts he might have and therefore enjoy for the first time a taste of success, this taste of success would react on his academic work perhaps to the extent that he would 'fall to' with better heart on his academic work. It was hoped that this improvement would be such that the most of these retarded pupils might eventually return to the traditional grades. The number that we have been able to return to the traditional schools have not justified our hopes.

"Today we feel that the purpose of the Junior Vocational High School is to prepare for work and citizenship. While we do return a very few to the traditional schools, we feel that we are educating for work and living and not for further education.

"We encourage our pupils to take jobs as soon as they are old enough and to come to school whenever they are out of work. Our boys and girls do well in employment and an increasing number of employers look to us for their juvenile help.

"We are teaching boys and girls how to work coöperatively, and I think this our job rather than to teach definite skills and trades. Junior Vocational High School is an activity school rather than a vocational school. Of course definite skills are taught in the course of teaching coöperative work. Definite skills are taught in all our shops, but the main object is correct work habits."

LANSING

Lansing has had a rather unique development as regards industrial education. Perhaps the uniqueness lies in the fact that Lansing's Smith-Hughes industrial classes have grown out of its "Coöperative Part-Time Plan." In 1932 all-day trade classes took the place of the coöperative course which had been eliminated by the economic forces of the depression. This coöperative plan in Lansing was one of the early attempts in Michigan to provide apprenticeship training.

It is interesting to note that the coöperative plan adopted in Lansing in 1912 came only a few years after the first organization of its kind on the secondary level which had been developed at Fitchburg, Massachusetts in 1908. The plan involves placing pupils in half-time employment at occupations which they wish to follow, the other half of the time being spent in high school in pursuit of studies that relate to the occupation. Usually two pupils were assigned to the same job so that when one was in school the other was at work. The pupils were supervised in the employment to some extent by a representative of the school in order that their work assignments would be varied and educative.

Twelve boys graduated in 1916. They represented the automotive, metal, drafting, and pattern-making trades.

Enrollment in Different Types of Smith-Hughes Classes
by Years, in Grand Rapids

Year	All-Day Trade		Part-Time		Evening Industrial		Total
	M	F	M	F	M	F	
1919				54	424	12	490
1920					259	10	269
1921	67	22			246		335
1922	107				209		316
1923	179		622	206			
1924	252	123	300	677	331	24	
1925	271	138	368	145	532		1,454
1926	298	3	683	615	607	10	2,196
1927	317	21	683	569	549		1,822
1928	384	15	755	647	585		2,586
1929	440	7	685	612	668		2,412
1930	460	6	589	575	693		1,317
1931	778	10	468	506	30		1,792
1932	1,210	32	305	371	600	62	2,580
1933	1,166	5	282	373	864	11	2,501
1934	1,022	58	247	319	608	33	2,287
1935	895	214	449	329	452	0	2,339
1936	928	138	337	287	543	16	2,249

Expenditures of Federal, State and Local Funds for Different
Types of Industrial Classes by Years, in Grand Rapids

Year	All-Day Trade		Part-Time		Evening Industrial		
	Fed.	State	Fed.	State	Fed.	State	Local
1919	1,189.27	594.63	297.18	148.59			
1920			57.73		1,061.25		2,517.40
1921	2,867.99		2,510.96				10,522.78
1922	2,631.30	1,316.65	4,649.52	2,324.76	1,256.06	628.03	26,098.66
1923	3,074.60	1,537.30	6,792.16	3,396.08	805.08	402.54	
1924	3,579.70	1,789.85	7,671.84	3,835.92	822.84	411.42	
1925	3,579.70	1,789.85	7,671.84	3,835.92	822.84	411.42	34,572.41
1926	4,952.38	2,476.19	7,824.82	3,912.41	1,629.02	814.51	32,051.40
1927	4,544.48	2,272.24	7,632.62	3,816.31	1,478.82	739.41	34,024.94
1928	3,850.00	1,925.25	6,756.48	3,378.24	1,329.74	664.87	34,351.06
1929	4,096.78	2,048.39	7,820.38	3,910.19	1,374.28	687.14	34,901.06
1930	5,020.00	2,510.00	7,332.00	3,666.00	1,554.00	777.00	37,106.91
1931	6,800.00	3,400.00	5,085.00	2,540.00	2,000.00	1,000.00	
1932	10,936.00	5,462.00	4,370.00	2,185.00	1,250.00	625.00	
1933	10,734.00	5,367.00	4,344.00	2,162.00	1,820.00	910.00	
1934	7,358.00	3,679.00	2,908.00	1,454.00	1,320.00	660.00	
1935	11,974.00	5,987.00	7,640.00	3,820.00	2,262.00	1,131.00	25,559.75
1936	13,198.00	6,599.00	6,638.00	3,319.00	1,470.00	735.00	22,178.76

Four hundred and fifty-two graduates were on the list by 1922 representing various trades including building, electrical work, forging, foundry, gas engineering, machinists, printing, drafting, plumbing, surveying, mechanics, tin-smith and wood-working.⁶

Regarding the development of evening and part-time schools, Mr. Melvin Hall, present director of the continuation schools states that "in 1914 the Board of Education inaugurated the Lansing Free Public Evening School, but it was not until 1918 that federal and state aid were received. In the early years industrial education was represented by a class in mechanical drawing. During each succeeding year one or two additional courses were offered, and with the growing interest of the adult population, the encouragement of the State Board of Control for Vocational Education, and the desire of Superintendent Sexton to offer complete educational advantages to the workers of the community, vocational guidance and coordination were also offered."

In 1918 the Board of Education engaged Melvin Hall who was at that time, head of the department of industrial education in the high school, to survey the local situation in order to determine the number of eligible part-time students in the city and to ascertain the needs for a part-time continuation school. Thus Superintendent Sexton was informed of many of the difficulties to be encountered in carrying on such a school. In spite of the successive changing of temporary location from one Junior High to another, from a grade school building to another, from one part of a high school to another, the work has been continuing to render clinical and case work service to young men and women in need of social and employment adjustments for the past eighteen years.

PORT HURON

Port Huron began Smith-Hughes work by introducing part-time cooperative classes in 1919. However, the records indicate that classes were suspended during the year 1920-21, but resumed in 1921-22. In 1925, all-day trade and evening industrial classes were introduced and all three types of Smith-Hughes classes, with the exception of

⁶ Myers, George E., The Problem of Vocational Guidance. Macmillan Company, 1929, p. 156.

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Enrollment in Different Types of Smith-Hughes Classes
by Years, in Lansing

Year	All-Day Trade	Part-Time		Evening Industrial		Total
	M	M	F	M	F	
1919	0	33	0	144	2	176
1920	0	62	0	382	0	444
1921	0	123	50	237	3	413
1922	0	163	50	315	0	528
1923	126	191	163	571	0	1,051
1924	185	648	496	598	3	1,930
1925	161	300	89	350		741
1926	199	295	46	421	0	450
1927		248	189	374	2	803
1928		229	175	336		840
1929		448	181	239		868
1930		201	157	264	1	623
1931		141	158	0	0	452
1932	154	227	80	267	1	636
1933	0	172	82	356	0	657
1934	153	122	90	0	0	358
1935	163	143	117	0	0	423
1936	158	195	196	126	0	575

Expenditures of Federal, State and Local Funds for Different
Types of Industrial Classes by Years, in Lansing

Year	All-Day Trade		Part-Time		Evening Industrial		
	Fed.	State	Fed.	State	Fed.	State	Local
1919	180.90	90.45	69.42	349.71			1,320.49
1920	1,597.38				696.00	93.00	6,235.00
1921	1,011.34		2,562.30	1,281.15		332.09	7,586.31
1922			354.58	1,670.79	664.18	318.07	12,199.36
1923			3,696.76	1,803.38	636.14		
1924							
1925			3,994.30	1,997.15	529.80	334.15	12,911.85
1926			5,916.48	2,958.24	668.30	244.70	15,187.21
1927			5,933.62	2,866.81	489.30	199.15	15,353.92
1928			5,576.02	2,793.01	298.26	146.38	15,602.11
1929			5,641.58	2,820.79	252.78	165.00	14,048.49
1930			4,628.00	2,333.00	330.00		13,357.80
1931			1,054.00	2,338.00		154.00	
1932	3,978.00	1,989.00	742.00	527.00	308.00	359.00	
1933			1,500.00	2,032.00	718.00		
1934	3,544.00	1,772.00	1,290.00	371.00		1,200.00	
1935	4,726.00	2,363.00		750.00		58.00	7,388.58
1936	4,010.00	2,005.00		645.00	116.00		8,059.05

evening industrial classes in 1928-30 were maintained until 1930, when the retrenchment in educational expenditure made itself felt in Port Huron. No federally-aided classes have been conducted since 1930.

Enrollment in Different Types of Smith-Hughes
Classes by Years, in Port Huron

Year	All-Day Trade M	Part-Time		Evening Industrial		Total
		M	F	M	F	
1920	0	28	0			28
1921		0	0			
1922	0	36	68			104
1923	0	40	47	81		87
1924	0	70	37			107
1925	69	24	34			127
1926	45	22	66	27		72
1927	65	33	44	15	1	158
1928	43	29	49			121
1929	37	36	59			154
1930	76	25	23			124

LUDINGTON

Ludington introduced part-time classes provided for by the James Law in 1923 and continued them until 1925 but has had no Smith-Hughes industrial work since then.

Year	General Continuation		Total
	M	F	
1923	12	36	48
1924	15	30	45

MUSKEGON HEIGHTS

Apparently this city maintained part-time classes beginning in 1925 and continuing to 1933. The work was allowed to lapse but it is of interest to know, that in 1937, the superintendent is again concerned with the problem of providing some educational service for part-time pupils.

Enrollment in Different Types of Smith-Hughes
Classes by Years, in Muskegon Heights

Year	General Continuation		Total
	M	F	
1925		105	105
1926	68	62	130
1927	65	63	128
1928	64	72	136
1929	69	75	144
1930	61	87	148
1931		82	82
1932	32	55	86

BATTLE CREEK

Battle Creek like Muskegon and Saginaw was a pioneer in deviating from traditional school work by the introduction of manual training and cooking. These subjects were introduced in the fifth, sixth, seventh and eighth grades in the year 1901. Superintendent Emeritus Coburn says this action was followed by others of significance toward the beginning and development of industrial classes, among which were the following:

1. In 1902-03 the Board of Trustees purchased the old Knitting Mill and extended the manual training department.
2. In 1908-09 sewing and cooking were introduced in the high school.
3. In 1913-14 dressmaking and millinery were introduced in the high school. Mechanical drawing was also introduced during that year.
4. In 1916 definite plans were made for the furthering of vocational education by hiring a director of vocational education, Mr. G. G. Price who has supervised the work from its beginning, and by planning for a school to centralize all vocational activities.
5. In 1919 printing was added to the curriculum.
6. In 1919 part-time classes began with a total enrollment of forty-one. (This was Battle Creek's first Smith-Hughes Class.)

7. Evening industrial (Smith-Hughes) classes got under way the same year, 1919 and have been maintained almost continuously up to 1934.
8. In 1920 the continuation school began under the James Law.
9. In 1921 auto mechanics was introduced in the vocational school.
10. In 1923-24, general shop opened at the vocational school.
11. In 1932 general continuation classes were discontinued due to the effects of the economic depression, but the gap was filled by a course designed to fit a community need, the industrial preparatory course.
12. In 1934, Smith-Hughes classes were again reimbursed under the head of general continuation classes.
13. In 1934, Junior vocational work began with fifty twelve to fourteen year old boys.
14. In 1935-36, the electrical shop was introduced in the vocational school. A practical arts course for girls, similar to industrial preparatory course for boys was introduced.

FLINT

A survey made by the Industrial Education Department of the University of Michigan in 1921,⁷ to determine the industrial education needs of Flint revealed that the industrial education in that city was carried on previous to 1920 largely by the Industrial Fellowship League, an organization that was promoted by the General Motors Corporation. This organization conducted a tuition school for workers in the automobile trades. Considerable vocational education was obtained also through correspondence courses; Y.M.C.A. evening courses, and the Baker Business University, a private commercial school. A total of over 2,100 students were taking vocational courses in one or other of the above organizations during the years 1920 to 1921, and it was estimated that the amount paid for courses by the students during that year was in excess of \$100,000. Though doing no industrial education work of importance previous to 1920,

⁷Unpublished manuscript, Vocational Education Survey in Flint.

Enrollment in Different Types of Smith-Hughes Classes
by Years, in Battle Creek

Year	Part-Time		Evening Industrial		Total
	M	F	M	F	
1920	0	0	66	17	124
1921	50	19	86	15	170
1922	74	19	49	18	160
1923	116	40	41	20	217
1924	99	63	210	0	372
1925	39	5	80		124
1926	58	34	119		151
1927	98	52	124	4	278
1928	93	56	86	3	149
1929	87	63	122		272
1930	69	40	106		215
1931	42	69	13	0	124
1932	89	0			89
1933	12	27	130	55	234
1934	125	0	0	0	125
1935	121	0	73	0	194
1936	190	0	52	0	242

Expenditures of Federal, State and Local Funds for Different
Types of Industrial Classes by Years, in Battle Creek

Year	Part-Time		Evening School			Total
	Fed.	State	Fed.	State	Local	
1920	447.23	223.61	96.26	48.12	2,409.67	3,224.89
1921	316.44	158.21	70.82	35.40	1,171.83	1,762.70
1922	452.18	226.09	52.14	26.07	1,535.92	2,292.40
1923	776.20	388.10	54.40	27.20		1,245.90
1924	510.72	255.36	80.10	40.05		886.23
1925	510.72	255.36	80.10	40.05	602.42	2,488.65
1926	340.00	170.00	96.80	48.40	1,416.80	2,072.00
1927	340.00	170.00	78.24	39.86	1,382.14	2,009.50
1928	351.70	175.85	87.56	49.00	1,499.70	2,158.59
1929	254.90	127.45	79.72	97.50	1,012.45	1,514.38
1930	312.00	156.00	98.00		1,664.00	2,279.00
1931	346.00	173.00	195.00			811.50
1932	536.00	268.00				804.00
1933	340.00	170.00				510.00
1934	440.00	220.00				660.00
1935	670.00	335.00	222.00	111.00		1,338.00
1936	608.00	304.00	152.00	76.00	1,094.40	2,234.40

the Flint school system had been slowly moving forward with its program of industrial arts, its first shop having been established in 1889, according to Mr. Harry Burnham, Supervisor of Industrial Education for the city. At that time one instructor handled the work, and was paid a salary of \$600. In 1936, twenty-six teachers instructed over 5,000 students in industrial arts and trade education.

Flint established Smith-Hughes evening industrial classes and a general part-time school in 1920 but received no federal or state aid until 1921. The first continuation school was under the supervision of a Mr. Metzger. Since 1923, A. B. Lightfoot has had charge of this work. Both of these types of work have been continued since that time and have maintained a growth which appears to be consistent with the national growth of such schools and the rather fluctuating population of this particular city. Part-time classes were discontinued in 1926 but resumed again in 1933.

In 1936, ninety boys were enrolled in the technical high school curriculum which was started in 1932 for boys of higher caliber, who could not attend college but wished to enter industry. This is not Smith-Hughes work but it prepares a boy to enter industry or to go into the General Motors Technical School of Flint.

The first preemployment course in industrial training for girls was started in September of 1935. Twenty-four last half year seniors were selected on the basis of scholarship. These girls were trained as inspectors in the A. C. Spark Plug Plant of Flint. Their course consisted of blueprint reading, shop mathematics and the use of measuring instruments. This course ran for eighteen weeks and met three hours every Saturday morning. This plan is still in operation and has grown satisfactorily.

Beginning in September, 1936, Flint introduced work of Junior vocational type in a separate school building. The work done here is similar to that carried on in the Grand Rapids Junior Vocational School, mentioned elsewhere, and will qualify for federal and state aid as industrial trade training as soon as some minor adjustments in time schedules have been adjusted.

Enrollment in Different Types of Smith-Hughes Classes
by Years, in Flint

Year	Part-Time		Evening Industrial		Total
	M	F	M	F	
1921	55	48			103
1922	89	63	111		263
1923	297	264	118		679
1924	246	294	259	1	1,070
1925	92	95	215		402
1926	370	321	108	0	799
1927	346	331	18	0	695
1928	504	238	15	0	757
1929	566	450	35	0	951
1930	416	311	48		775
1931	265	259	3	0	526
1932	0	175	180	0	355
1933	238	224	39	0	501
1934	198	199			397
1935	202	229	0	0	431
1936	205	199	0	0	404

Expenditures of Federal, State and Local Funds for Different
Types of Industrial Classes by Years, in Flint

Year	Part-Time		Evening Industrial			Total
	Fed.	State	Fed.	State	Local	
1922	441.32	220.66	132.34	66.17	1,739.26	2,599.75
1923	1,984.86	497.43				1,446.29
1924	964.10	582.05	347.38	173.79		
1925	964.10	482.05	347.58	173.79	4,281.22	6,248.74
1926	1,672.14	836.00	267.60	113.80	4,918.39	7,829.00
1927	1,473.16	736.58	33.82	16.91	4,308.67	6,569.14
1928	1,575.04	787.52	25.38	12.69	4,615.87	7,016.50
1929	1,881.36	940.68	17.98	8.99	4,120.99	6,970.00
1930	1,854.00	927.00	72.00	36.00	5,138.50	8,027.50
1931	2,104.00	1,052.00	76.00	38.00		3,270.00
1932	1,684.00	842.00				2,526.00
1933	2,192.00	1,096.00	64.00	32.00		3,384.00
1934	1,466.00	733.00				2,199.00
1935	2,156.00	1,078.00			2,125.50	5,359.50
1936	2,656.00	1,328.00			2,773.36	6,757.36

BAY CITY

Bay City introduced its Smith-Hughes classes in the form of part-time classes in 1922. Part-time classes have been maintained at different periods through the past fifteen years.

A department of Vocational Education was established in 1927 with L. L. Yeakey director, and evening classes were begun the same year.

Evening classes and apprenticeship classes in co-operation with industry which were well under way, were discontinued in 1932, as a result of economic conditions, but are very likely to be a part of the 1937 educational program.

The erratic nature of the enrollment in the part-time school may be explained by the following quotation from a statement made by Mr. Yeakey, "Due to lack of building facilities the part-time school has not grown as those engaged in the work would like to have had it. This has made it necessary for boys and girls in part-time school to go back to all day school during periods of long unemployment."

Enrollment in Different Types of Smith-Hughes
Classes by Years, in Bay City

Year	Part-Time		Evening Industrial	Total
	M	F	M	
1923	180	226		406
1924	250	252		502
1925	500	0	0	500
1926	130	142	41	313
1927				
1928	187	263		452
1929	213	243	51	507
1930	201	241	71	483
1931	156	183	3	342
1932	133	157		290
1933	121	156	28	305
1934	116	149		265
1935				
1936				

Expenditures of Federal, State and Local Funds for Different Types of Industrial Classes
by Years, in Bay City

Year	Part-Time		Evening Industrial			Totals
	Fed.	State	Fed.	State	Local	
1924	1,092.60	546.30			5,225.39	6,864.35
1925	1,092.60	546.30			2,949.34	5,428.00
1926	1,592.68	797.34	57.76	28.88	3,173.80	5,290.00
1927	1,410.80	705.46			3,057.64	4,290.00
1928	1,488.24	744.12			3,917.11	6,491.50
1929	1,667.90	833.95	48.36	24.18	5,129.00	8,072.00
1930	1,904.00	952.00	58.00	29.00		3,039.00
1931	1,965.00	978.00	70.00	35.00		2,484.00
1932	1,656.00	828.00				2,712.00
1933	1,774.00	887.00	34.00	17.00		2,037.00
1934	1,358.00	679.00			1,376.50	3,506.50
1935	1,380.00	690.00	40.00	20.00	1,362.00	3,330.00
1936	1,312.00	656.00				

IONIA⁸

Ionia began Smith-Hughes work in 1923 by the introduction of part-time continuation classes in the Emerson School of that city. According to S. W. Tuohy, present director, the trend has been toward an increase in the number of volunteer students. This condition requires a broadening of the curriculum. During the last three years the continuation school has combined regular continuation classes with the Emergency Relief Program.

HIGHLAND PARK

From the records of the State Supervisor of Industrial Education, Highland Park organized and conducted part-time general continuation classes from 1924 to 1930 inclusive. These classes are the only Smith-Hughes industrial classes that have been carried on by Highland Park up to the present time.

⁸ For more complete information regarding the part-time classes in Ionia, Flint, Jackson and Pontiac, see, Dalton, F. W., Survey of the Continuation Schools in Four Michigan Cities, 1933.

Enrollment in Different Types of Smith-Hughes
Classes by Years, in Ionia

Year	General Continuation		Total
	M	F	
1924	15	30	62
1925	27	27	82
1926	29	27	106
1927	47	53	100
1928	49	71	120
1929	60	55	115
1930	45	52	97
1931	68	61	129
1932	58	73	131
1933	53	59	112
1934	48	45	93
1935	33	25	58
1936	56	34	100

Expenditures of Federal, State and Local Funds for
Different Types of Industrial Classes
by Years, in Ionia

Year	General Continuation			Total
	Fed.	State	Local	
1924	400.00	200.00	1,400.00	2,000.00
1925	400.00	200.00	1,400.00	2,000.00
1926	741.40	370.70	1,087.90	2,200.00
1927	647.00	323.50	1,329.38	2,299.88
1928	653.40	326.70	1,469.90	2,450.00
1929	683.34	341.67	1,474.99	2,500.00
1930	600.00	300.00	1,600.00	945.00
1931	630.00	315.00		735.00
1932	490.00	245.00		834.00
1933	556.00	278.00		
1934	328.00	164.00		
1935	650.00	325.00	325.00	1,300.00
1936	592.00	296.00	612.00	1,500.00

MENOMINEE

Menominee, in the Upper Peninsula of Michigan maintained Smith-Hughes evening industrial classes from 1923 to 1930 inclusive. As in most cities, but particularly those in the northern peninsula of Michigan, the economic conditions of 1929-1935 caused a distinct falling off in evening classes in Menominee.

KALAMAZOO

The records of the State Supervisor of Industrial Education indicate that Kalamazoo had its first Smith-Hughes classes in 1921. Two types of classes were carried on, one in part-time and the other in evening industrial work, with a total enrollment of 183 students.

The part-time Continuation school began in September 1922. The enrollment grew until 1926 and then gradually declined until 1932 when there was a sharp falling off, a condition quite general throughout the United States in this type of work.

Kalamazoo has maintained a strong Smith-Hughes evening industrial school since its beginning in 1921. Especially significant is the fact that a relatively high enrollment has existed during the years 1932-36 when most schools had abandoned evening school work or seriously curtailed it.

Kalamazoo's public evening school program has been exceedingly strong and has gone forward in spite of the economic depression, having over 3,000 students enrolled in 1936. Their curriculum is fashioned to meet the demands of many, including, cultural, industrial, and commercial subjects. Many of the new developments in industry are featured in their evening school program. However, only those industrial classes that meet the state requirements are reimbursed under the state plan.

HOLLAND

Russell Welch who has been director of the Continuation school in Holland since its beginning states that this school was established in 1923 and has been in operation since that time. The total enrollment for the first year was 216. In the thirteen years that have elapsed nearly 1,500 students have received instruction in continuation classes.

Enrollment in Different Types of Smith-Hughes
Classes by Years, in Kalamazoo

Year	General Continuation		Evening Industrial		Total
	M	F	M	F	
1921	64	9	110	0	183
1922	92	81	74	0	247
1923	116	127	101	0	344
1924	143	156	72	0	371
1925	148	175	127	0	447
1926	138	146	183	0	467
1927	121	135	146	0	402
1928	113	87	51	0	251
1929	137	80	109	0	326
1930	108	85	62	0	255
1931	71	82	116	6	275
1932	57	64	205	13	339
1933	50	59	146	2	257
1934	48	42	218	12	320
1935	57	41			98
1936	56	48			104

Expenditures of Federal, State and Local Funds for
Different Types of Industrial Classes
by Years, in Kalamazoo

Year	Part-Time		Evening Industrial			Total
	Fed.	State	Fed.	State	Local	
1921	438.50				1,378.55	2,038.90
1922	930.26	465.13	128.46	64.23	3,224.37	4,812.95
1923			206.76	103.38		
1924	431.46	215.73	116.60	58.30	7,551.32	822.09
1925	933.32	466.66	116.60	58.30	7,551.32	4,724.30
1926	1,473.20	736.60	191.98	95.99	3,967.95	6,465.72
1927	1,312.68	656.34	167.58	83.79	3,845.51	6,062.10
1928	1,305.90	652.95	126.66	63.33	3,813.26	5,962.10
1929	1,439.12	719.56	170.62	85.31	4,208.37	6,622.98
1930	1,354.00	677.00	154.00	77.00	4,021.00	6,283.00
1931	1,460.00	735.00				3,035.00
1932	968.00	509.00	250.00	125.00		1,902.00
1933	1,364.00	682.00	436.00	218.00		2,700.00
1934	130.00	226.00	416.00	208.00		1,302.00
1935	742.00	371.00	644.00	322.00	1,038.77	2,117.77
1936	872.00	436.00	354.00	177.00	1,267.89	3,106.89

In 1921, Kalamazoo was given \$221.85 from the federal fund for all-day trade classes.

Enrollment in Different Types of Smith-Hughes
Classes by Years, in Holland

Year	Part-Time		Total
	M	F	
1926	46	160	206
1927	81	87	168
1928	66	67	133
1929	89	74	163
1930	60	67	127
1931	56	46	102
1932	45	23	68
1933	43	42	85
1934	23	0	23
1935	28	0	28
1936	29	0	29

Expenditures of Federal, State and Local Funds for
Different Types of Industrial Classes
by Years, in Holland

Year	Part-Time			Total
	Fed.	State	Local	
1923	238.28	119.14		357.42
1924	380.00	190.00	1,330.00	1,900.00
1925	380.00	190.00	1,330.00	1,900.00
1926	760.24	380.12	1,540.90	2,681.26
1927	793.98	396.99	1,884.03	3,075.00
1928	790.34	395.17	2,041.49	3,200.00
1929	804.34	402.17	1,943.49	3,150.00
1930	762.00	381.00	2,032.00	3,175.00
1931	778.00	389.00		1,167.00
1932	764.00	382.00		1,146.00
1933	874.00	437.00		1,311.00
1934	400.00	200.00		600.00
1935	746.00	373.00	721.00	1,840.00
1936	544.00	272.00	564.00	1,380.00

Shop work was introduced in 1928 and girls' classes discontinued in 1933. Mr. Welch states that the trend is toward the conversion of the continuation school to a Junior vocational school.

MANISTEE

Smith-Hughes part-time instruction was begun in Manistee in September 1920. It was taught in what is called the Woodrow Wilson School. The first year it was largely of a commercial nature. Typewriting and shorthand were taught. The second year bookkeeping and arithmetic were added followed thereafter by shop work in metal and wood.

The enrollment went as high as 120, being about equally divided between boys and girls. This number since 1932 has dwindled to twenty-five. Previous to 1929, the school was divided into three groups: Monday for general continuation girls, Tuesday for boys who took metal and wood shop and Wednesday for boys and girls who were far enough advanced to take regular commercial work. Since 1934 the part-time pupils have been required to come to school one-half day five days of the week, and have been enrolled in the regular high school classes.

During the year 1920-21, Manistee organized and conducted all-day trade classes but did not qualify for federal and state aid. Records do not indicate that these classes were continued.

MARQUETTE

Marquette is the largest city in the Upper Peninsula and one in which there is a considerable diversification of industries. In view of this fact it was believed to be undesirable to introduce a plan of industrial education into the public schools in which large sums of money would be spent upon equipment to be used for training young people for any one particular job. Since it was believed that there are relatively few jobs for boys and since these are spread over a large number of different occupations, a part-time vocational course was established in the high school in 1923. In this course the boys spend their mornings in the regular high school classes and their afternoons in some occupation. Thus the young people obtained the industrial contacts they might expect if elaborate school shops were provided, with the added advantage that the range of their experience is vastly greater than would be possible under conditions prevailing in public schools.

The boys in the vocational courses usually select the occupation they wish to follow, and are assisted in

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Marquette, Enrollment by Years

Years	Number Enrolled	Number Dropped	New Boys by Years	Boys taking courses two or more years
1923-24	19	0		
1924-25	21	0	16	5
1925-26	20	1	15	5
1926-27	27	0	18	9
1927-28	19	1	6	13
1928-29	22	1	13	9
1929-30	24	1	14	10
1930-31	36	1	29	7
1931-32	26	1	14	12
1932-33	24	4	13	11
1933-34	24	4	2	22
1934-35	39	6	35	5
1935-36	68	7	46	22

Number of boys enrolled for 1 year	145
Number of boys enrolled for 2 years	56
Number of boys enrolled for 3 years	31
Number of boys enrolled for 4 years	2
Total	234

Over a period of years approximately 8% fail or drop.

Expenditures of Federal, State and Local Funds for Different Types of Industrial Classes by Years, in Marquette

Year	Evening Industrial		Part-Time			Total
	Fed.	State	Fed:		Local	
1924			370.00	185.00	1,295.00	1,850.00
1925			370.00	185.00	1,295.00	1,850.00
1926			490.00	245.00	1,715.00	2,450.00
1927	70.00	35.00	500.00	250.00	1,750.00	2,605.00
1928			491.68	245.84	1,762.48	2,500.00
1929			683.34	346.67	1,474.99	2,505.00
1930			612.00	306.00	1,632.00	2,550.00
1931			646.00	323.00		969.00
1932			704.00	352.00		1,056.00
1933			730.00	365.00		1,095.00
1934			614.00	307.00		921.00
1935	144.00	72.00	402.00	451.00	949.50	2,018.50
1936			966.00	483.00	1,002.00	2,451.00

their efforts to find employment in it by a representative of the school. When they find a job they automatically start on their half-time program. If for any reason they leave their job they at once resume a full-time program in school until such time as they are again employed.

This description by Mr. L. J. Foard, the coördinator of this rather unusual program, one of the first of its kind in Michigan is indicative of the type of industrial education carried on in Marquette. Very careful and complete records of the students of this program together with an adequate follow-up have been compiled by Mr. Foard. These data⁹ would seem to justify the continuance of this type of work in a city of diversified industries.

JACKSON

Industrial Smith-Hughes classes have been in operation since 1920 when continuation classes were established.

In 1922 a committee surveyed the industrial educational problem in Jackson and made several recommendations, but it was not until 1928 that these were fully realized when the Jackson Technical School was organized with Mr. C. L. Greenwalt as director. Since 1933, Mr. D. B. Fox has been director.

With the organizing of the Technical School the work was broadened and coördinated. Beginning all-day trade classes in 1932 gave Jackson federal and state aid in all types of Smith-Hughes classes with the exception of apprenticeship classes, which were discontinued in 1931 because of the unemployment situation. In spite of this apparent reverse the director expressed the belief that Jackson will introduce apprentice classes again in 1937.

HAMTRAMCK

Hamtramck, in the Detroit industrial area has shown a rapid city growth, from 4,000 in 1910 to over 50,000 in 1935. This growth has been reflected in the enrollment in industrial classes. All-day trade classes alone have gained almost 500 per cent in eleven years.

Mr. Harold VanWestrienen who has been principal of the vocational school during the time Smith-Hughes work has

⁹ Unpublished Report on Part-Time Vocational Courses in Marquette Schools, L. J. Foard, 1936, pp. 3-15.

Enrollment in Different Types of Smith-Hughes Classes
by Years, in Jackson

Year	All-day Trade M	Part-Time		Evening Industrial		Total
		M	F	M	F	
1921		75	0			97
1922		176	239	17		200
1923		197	0			307
1924		60	185	20	16	418
1925		122	312	18	9	347
1926	0	87	69	32	0	292
1927		158	126	66	0	350
1928		141	113	35	0	291
1929		191	135	121	19	466
1930		157	144	166	0	467
1931		134	122	5		261
1932	60	94	141	91	20	406
1933	21	94	114	71	23	323
1934	53	485	185	86	0	609
1935						
1936						

Expenditures of Federal, State and Local Funds for Different
Types of Industrial Classes by Years, in Jackson

Year	All-Day Trade		Part-Time		Evening Industrial		
	Fed.	State	Fed.	State	Fed.	State	Local
1921			1,026.80				2,373.20
1922			1,312.68	656.34	141.56	70.78	4,428.81
1923			1,190.00	595.00			
1924			1,264.22	632.11	6.00	3.00	
1925			1,264.22	632.11	6.00	3.00	3,641.34
1926			2,062.44	1,031.22	65.88	32.94	3,574.52
1927			1,731.84	865.92	67.60	33.80	4,138.49
1928			1,854.22	927.11	73.44	36.72	4,259.43
1929			1,230.02	615.01	169.38	84.69	3,143.00
1930			1,324.00	662.00	192.00	96.00	4,049.00
1931			1,352.00	681.00	132.00	66.00	
1932	1,078.00	539.00	3,208.00	1,604.00	132.00	66.00	
1933	668.00	334.00	1,762.00	881.00	146.00	73.00	
1934	1,270.00	635.00	2,828.00	1,414.00	98.00	49.00	
1935	1,500.00	750.00	7,712.00	3,856.00	224.00	112.00	
1936	1,594.00	797.00	2,954.00	1,477.00	126.00	63.00	

been offered, beginning in 1924, relates briefly regarding the development of the work in Hamtramck as follows:

"The increased popularity of the industrial arts work, along with the encouragement given it by the late Dr. M. R. Keyworth who became superintendent of schools in June 1923, convinced the Board of Education of the need for a substantial increase in facilities to care for more industrial arts work and the introduction of all-day trade and continuation school facilities. The present vocational school which was planned during the previous year was completed in the fall of 1924. The new school provided for industrial arts work in drawing, printing, machine shop, auto mechanics, wood-working, and pattern-making, sheet-metal, electrical; all-day trade classes in auto mechanics, drawing, printing, machine shop, and woodworking; and part-time continuation work for both boys and girls. Nine new teachers were employed.

"With the new facilities a series of eight, ten week try-out courses were provided for the boys in the seventh and eighth grades. During the last four years a choice of any of the industrial arts or all-day trade courses were open for election. Adult evening shop classes which had been started in a small way in 1923 grew rapidly and the entire facilities of the school were soon crowded to capacity with a waiting list in some subjects.

"For two years or more prior to 1931 the enrollment in the junior high school grew so rapidly that it became necessary to operate the vocational school on double session with twelve 45 minute classes per day. The junior high and the senior high each occupying the school for six periods. To relieve the growing congestion the Copernius Junior High was built in 1931, and the seventh, eighth and ninth grades were moved to the new building which has been specifically planned to accommodate the series of eight try-out classes.

"The increased facilities brought new teachers which now number thirteen full-time and two part-time for the department as a whole. Present indications are that another teacher will need to be added to the vocational staff within another year. Although several changes in personnel have been made during the past twelve years, several of the original staff are still with the system, and three have been promoted to more responsible positions in other departments. There are three additional part-time related subjects teachers doing work with the all-day trade classes.

Enrollments in Different Types of Smith-Hughes Classes
by Years, in Hamtramck

Year	All-Day Trade	Part-Time		Evening Industrial	Total
	M	M	F	M	
1925	38	0	333	220	591
1926	51	265	290	140	746
1927	55	324	396	255	1,030
1928	65	299	483	267	1,124
1929	84	295	510	270	1,159
1930	85	331	473	388	1,277
1931		310	463	7	780
1932	174	227	249	234	884
1933	185	262	322	240	1,016
1934	178	238	261	219	957
1935	113	285	146	345	1,004
1936	142	196		284	769

Expenditures of Federal, State and Local Funds for Different
Types of Industrial Classes by Years, in Hamtramck

Year	All-Day Trade		Part-Time		Evening Industrial		
	Fed.	State	Fed.	State	Fed.	Local	
1925							
1926	742.68	371.34	1,999.74	999.87	604.90	302.45	
1927	770.80	385.40	2,123.70	1,961.85	353.72	176.86	7,362.63
1928	1,380.78	690.39	1,739.12	869.56	275.38	137.69	8,397.67
1929	1,442.50	721.25	1,890.26	945.26	594.14	297.07	9,384.18
1930	1,440.00	720.00	1,946.00	973.00	618.00	309.00	9,313.65
1931	1,624.00	812.00	2,158.00	1,079.00	235.00	117.50	10,679.00
1932	1,970.00	985.00	1,622.00	811.00	220.00	110.00	
1933	3,240.00	1,620.00	2,452.00	1,231.00	396.00	198.00	
1934	2,250.00	1,125.00	1,731.00	865.50	278.00	139.00	
1935	2,024.00	1,012.00	2,376.00	1,188.00	618.00	309.00	5,464.78
1936	2,346.00	1,173.00	2,710.00	1,355.00	408.00	204.00	5,674.28

PONTIAC

The development of industrial education in Pontiac has a history similar to that of many other industrial cities in Michigan. Pontiac's industrial education had for its background the introduction of the first Manual Training School located in a ward building on Pike Street in 1905. With that beginning manual training gradually grew less and industrial arts grew more until 1921, when a considerable amount of the work was industrial education and reimbursible under the Smith-Hughes provisions. Mr. E. C. Russel, director of industrial education has prepared from the records of the school a chronological table of the developments which follows:

- 1921 Boys and girls part-time school established (Smith-Hughes).
- 1923 Smith-Hughes evening classes in drafting were started.
- 1924 A separate part-time school for boys was established (reimbursible in part from Smith-Hughes funds).
- 1925 With opening of Eastern Junior High School a transition from manual arts to industrial arts was commenced. Five shops were provided for: general woodwork, general mechanical drawing, general printing, general metal and auto mechanics.
- 1927 A pre-vocational school was opened in the old Bagley School.

Relationship with the trade apprenticeship of the Wilson Foundry and Machine Company was established through extension evening courses (Smith-Hughes vocational funds).

Trade apprenticeship with Oakland Motor Car Company was introduced. A part-time school coördinator employed (Smith-Hughes vocational funds).

- 1928 Trade apprenticeship with General Motors Truck Company was introduced (Smith-Hughes vocational funds).

Coöperative apprenticeship with Oakland and Pontiac Plants was undertaken. A full-time coördinator was employed in apprenticeship relations. (Smith-Hughes vocational funds.) The number of students under apprenticeship training at this period: trade apprenticeship, 92; coöperative apprenticeship, 46.

- 1929 (Fall) Industrial Arts and Industrial Education Departments of the Pontiac Senior High School are moved into a separate building, housing the following units: drafting rooms; blueprinting; auto mechanics; girls' part-time; boys' part-time school.
- Fall 1929 Washington and Lincoln Junior High Schools are opened with the following shops: general wood-work, general metal, general drafting, provision for general printing (to be added later).
- Smith-Hughes evening courses established in various shops.
- 1930 Coöperative apprenticeship discontinued.
- Pre-vocational school discontinued. Boys and girls Part-time Schools became continuation schools providing training for Junior employment and the re-training of adult workers.
- Working permits and part-time placement office transferred to offices of Industrial Education Building.
- 1931 Grade School Shops discontinued.
- Courses of study outlined for Junior High School general shops.
- 1932 Trade apprenticeship completed for majority of apprentices in employment.
- Curriculums are established for senior high school.
- Courses in industrial arts and industrial education.
- Related work is introduced for technical and industrial curriculums.
- All-day trade classes reimbursed from Smith-Hughes funds.
- The only change since 1932 is an increased enrollment as indicated in the data that follow.

NEGAUNEE

Negaunee, in the Upper Peninsula of Michigan established federally aided all-day trade classes in 1923. Twenty boys were enrolled in this first class. The growth as indicated by the following data has been consistently upward having gained over 350 per cent in twelve years.

Enrollment in Different Types of Smith-Hughes Classes
by Years, in Pontiac

Year	All-Day Trade	Part-Time		Evening Industrial		Total
	M	M	F	M	F	
1921		17	18			35
1922		58	38	47	1	144
1923		109	77	56		242
1924		105	95	42		242
1925		49	58	67		243
1926		120	82	97		281
1927		183	124	208		515
1928		201	169	219		589
1929		324	176	126		666
1930		165	143	276		574
1931		190	202			392
1932	81	105	109	29		324
1933		199	140	44		383
1934	74	116	117	46		353
1935	98	147	155	103		503
1936	64	97	144	341		646

Expenditures of Federal, State and Local Funds for Different
Types of Industrial Classes by Years, in Pontiac

Year	All-Day Trade		Part-Time		Evening Industrial		
	Fed.	State	Fed.	State	Fed.	State	Local
1922			585.06	292.53	56.98	28.49	1,955.27
1923			613.88	306.94			
1924			602.88	301.44	135.00	67.50	
1925			602.88	301.44	135.00	67.50	2,075.93
1926			1,698.90	849.45	130.20	65.10	3,357.35
1927			1,444.20	722.10	254.74	127.37	
1928			1,875.84	937.92	265.34	132.67	
1929			2,001.88	1,000.00	158.98	79.49	5,837.04
1930			2,064.00	1,032.00	412.00	206.00	6,607.00
1931			2,266.00	1,133.00			
1932			1,136.00	568.00	74.00	37.00	
1933			2,404.00	1,202.00	138.00	69.00	
1934	1,126.00	564.00	1,128.00	564.00	210.00	105.00	
1935	1,980.00	990.00	2,514.00	1,257.00	770.00	385.00	4,383.75
1936	2,182.00	1,091.00	1,444.00	722.00	972.00	486.00	5,472.72

Enrollment in Different Types of Smith-Hughes
Classes by Years, in Negaunee

Year	All-Day Trade	Part-Time		Total
	M	M	F	
1923	22			22
1924	29			29
1925	39			39
1926	43			43
1927	52	65	63	180
1928	56			56
1929	53			53
1930	63			63
1931	67			67
1932	75			75
1933	64			64
1934	72			72
1935	69			69
1936	72			72

Expenditures of Federal, State and Local Funds for
Different Types of Industrial Classes
by Years, in Negaunee

Year	All-Day Trade			Total
	Fed.	State	Local	
1923	262.54	131.27	*	393.81
1924	747.78	373.89		1,121.67
1925	747.78	373.89	2,261.66	3,833.33
1926	1,120.94	560.47	2,096.72	3,778.13
1927	1,108.97	554.49	2,569.88	4,233.34
1928	1,014.56	507.28	2,448.89	3,970.83
1929	1,046.58	523.29	3,444.50	3,987.50
1930	1,292.00	646.00	*	5,382.50
1931	1,380.00	690.00	*	2,070.00
1932	1,256.00	628.00	*	1,884.00
1933	1,380.00	690.00	*	2,070.00
1934	1,070.00	535.00	*	1,605.00
1935	1,212.00	606.00	1,849.50	3,667.50
1936	1,808.00	904.00	1,886.33	4,598.33

*Data not available for local funds.

This growth has led to the remodeling of the building in which industrial work was done. The changes made have more than doubled the space available for this type of education at the beginning of the year 1936-37.

ANN ARBOR - ALPENA

The records indicate that Ann Arbor and Alpena conducted part-time industrial classes for short periods. The former from 1923-29 and the latter during the year 1921-22. In view of the brief experience it was considered unnecessary to include statistics concerning enrollment and expenditures.

SAULT ST. MARIE

The Sault St. Marie Public Schools organized and maintained Smith-Hughes evening industrial classes in 1934 with an enrollment of sixteen. In 1935 the enrollment was nine. The total aid for 1934 was \$96 and the local expenditures were \$35.25 constituting a total of \$151.25 for the year. For 1935 the total sum was \$87 of which \$58 was federal and state aid.

FORDSON

Fordson being a highly industrialized city has developed a plan of industrial education somewhat different from other cities of its size in the state. Briefly, this plan is designed to fit the needs of an industrial community and at the same time become a part of a cosmopolitan school plan.

The industrial education course begins in the sixth grade with an introductory course, a junior high school required division, together with a part-time, industrial preparatory, a continuation course of study and adult education classes. The senior high school course consists of a major activity of trade training and a minor activity of avocational work.

Because of this coordinated type of industrial education Smith-Hughes classes may be said to have had their beginning with the introduction of manual arts in the Salina school in Dearborn under the direction of Mr. Mac F. Whalen in 1923. This work, because of the lack of equipment, was largely academic. From this beginning manual and industrial arts grew rapidly. In 1926 Mr. A. C. Tagg was appointed director of industrial education with a staff of six teachers, and by 1928 increased student enrollment made it necessary to add six more teachers, and in 1936 twenty-three teachers were needed to take care of the increasing enrollment.

In 1929 Dearborn received federal and state aid for evening industrial and part-time industrial classes. In 1931 general continuation classes were added and in 1932 all-day trade classes completed the list of federal and state aid classes.

For a more complete understanding of how Fordson schools function under their dual aim in industrial education the reader is referred to the Manual published September 1932 by the Industrial Education department of the Fordson Public Schools.

Enrollment in Different Types of Smith-Hughes Classes
by Years, in Fordson-Dearborn

Year	All-Day Trade M	Part-Time M	Evening Ind. M	Total
1932	95	165	65	313
1933	128	46	51	344
1934	369	89	45	502
1935	380	115	66	637
1936	390	55	43	578

Expenditures of Federal, State and Local Funds for
Different Types of Industrial Classes
by Years, in Fordson-Dearborn

Year	All-Day Trade		Part-Time		Evening Industrial	
	Fed.	State	Fed.	State	Fed.	Local
1929			427.70	213.85	197.12	98.56
1930			442.00	221.00	272.00	136.00
1931			362.00	181.00	258.00	129.00
1932	828.00	414.00	832.00	416.00	300.00	150.00
1933	684.00	342.00	1,155.00	572.00	422.00	211.00
1934	3,314.00	1,667.00	1,622.00	811.00	168.00	84.00
1935	4,414.00	2,207.00	3,422.00	1,711.00	396.00	198.00
1936	5,150.00	2,575.00	3,620.00	1,810.00	272.00	136.00

BENTON HARBOR

Continuation classes were established in the school year of 1923 and continued to 1930, since which time no Smith-Hughes industrial classes have been conducted.

In 1925 and 1927 evening industrial classes were conducted for men.

ESCANABA, IRONWOOD, MONROE

Escanaba, Ironwood and Monroe carried on Smith-Hughes classes for short periods. Escanaba conducted evening industrial classes from 1919-21; Ironwood, part-time industrial work from 1926-28 and in 1923 Monroe carried on evening school classes for that year.

THREE RIVERS

Three Rivers began its industrial course in 1924 with fourteen boys enrolled in all-day trade courses. In 1925 this course was established as a definite Smith-Hughes course.

Fairbanks-Morse Company promoted and encouraged the establishment of the course as a means of giving preliminary training to prospective apprentices.

Three Rivers like the other schools mentioned has shown a decided growth in enrollment.

Enrollment in Different Types of Smith-Hughes
Classes by Years, in Three Rivers

Year	All-Day Trade M	Total
1924	14	14
1925	19	19
1926	39	39
1927	27	27
1928	29	29
1929	31	31
1930	42	42
1931	44	44
1932	65	65
1933	46	46
1934	67	67

Expenditures of Federal, State and Local Funds for
Different Types of Industrial Classes
by Years, in Three Rivers

Year	All-Day Trade			Total
	Fed.	State	Local	
1925	420.00	210.00	1,470.00	2,100.00
1926	1,157.70	588.85	2,718.70	4,455.25
1927	688.98	344.49	1,626.53	2,660.00
1928	751.08	375.54	1,997.38	3,124.00
1929	792.84	396.42	2,005.74	3,195.00
1930	806.00	403.00	2,151.00	3,360.00
1931	858.00	429.00		1,287.00
1932	972.00	486.00		1,458.00
1933	972.00	486.00		1,458.00
1934	628.00	314.00		924.00
1935	844.00	422.00	1,135.27	2,401.27
1936	1,048.00	524.00	1,088.40	2,660.40

TRENDS IN INDUSTRIAL EDUCATION IN MICHIGAN

Examination of the material thus far presented indicates certain trends that have characterized the development of vocational education in Michigan. A few of the most significant of these trends should be noted here.

The Part-Time School which came into being largely as the result of the James Law which was passed in 1919 appears to be on the decline if one is to judge by the decreased enrollment in practically all of the schools where the work has been carried on.¹⁰ This decrease has been general and consistent throughout the United States during the last seven years. In 1930 the total enrollment in the United States was 334,549¹¹ and in 1937 it is estimated that the enrollment will be less than 130,000. The decreased enrollment may be accounted for in several ways; the two outstanding reasons are perhaps the increased age at which youth enter employment and the fact that increasingly larger numbers of those who would otherwise be continuation school students are enrolling in trade preparatory all-day classes or in other types of courses in the public schools.

¹⁰See Chapter V, School enrollments.

¹¹Digest of Annual Reports, 1935. U.S. Office of Education.

Undoubtedly other students of the type that would generally choose the continuation school course are finding their needs satisfied by the apprenticeship courses that are developing in Michigan as well as elsewhere in the nation.

The New Apprenticeship Movement. Two factors, the breakdown of favorable apprentice training conditions and the comparatively high wages available to physically apt junior wage-earners in common labor and semi-skilled work have brought about an acute shortage of men with suitable training for the handling of the work that requires technical knowledge and all-round trade training.

In the new apprenticeship movement which is national in scope, it has been necessary to do much pioneering in the rebuilding of the system to make it fit into present-day industrial development and to adjust it at the same time to modern educational organizations. In this connection it is interesting to note that the apprenticeship Board in the State of Michigan is made up of representatives of organized labor, non-union labor and education.

Those responsible for the reorganization of apprenticeship training agree that a systematized program must be definitely blocked out and someone made responsible for its functioning according to its interests and purposes, otherwise the apprentice in a modern plant or business is subject to stagnation, if not actual exploitation.

It seems that the trend is definitely toward a co-operative apprenticeship program involving both the plant and the public educational facilities such as is found, for example, in the diversified occupations course.

The Junior Vocational School has been developing rapidly in the metropolitan cities of Michigan in the last five years and marks another definite trend on the part of the public schools in the effort to meet the needs of young workers. Already we find well-developed programs in Detroit, Grand Rapids, and Flint. The plans, purposes and administration are well set forth by Mr. Green of Grand Rapids.¹²

Unit Control. The junior vocational school, the apprentice-training programs, the coöperative plans and

¹²See Chapter V, p. 81.

the trade schools are all evidences that the leaders in vocational education are definitely committed to the policy that vocational education should be a part of the general education program rather than a separate program under separate management.

When the work in industrial education under the Smith-Hughes law was introduced there was considerable controversy throughout the country concerning the question of whether this type of education should constitute an integral part of the prevailing educational system, or should become a separate unit distinct from general education. As a result of the discussion Wisconsin and Massachusetts set up governing boards which administered the program independent of the regular state and local boards of education, while all other states introduced the work as part of the regular school program. Thus two systems of administration, "Dual" control and "Unit" control, were set up. Under the first of these the work was administered by a board which had no relationship with the regular school administration and teachers. Under the second plan industrial education was built into the existing curriculum and was administered by those responsible for the whole program of education in the states and local communities. After some experience with the "Dual" system Massachusetts changed over to "Unit" control, leaving Wisconsin as the only state operating two distinct systems of education.

The personnel of the State Board of Control for Vocational Education in Michigan indicates that those who promoted the work in the beginning believed that industrial education was merely an additional unit in the State program of education and that as such the Board should be made up of members already prominent in the educational work of the State.

During the years that have followed there is no evidence that this point of view has been changed, with the result that today the leaders in this field are constantly striving to build a program which will fit into the existing school system.

Federal Control in education began with the passage of the Morrill Law in 1862. However, this control was very general in character until the passage of the Smith-Hughes Law in 1917. Since that time the control has become quite specific and restrictive as far as those types of vocational

education promoted by this and subsequent vocational education acts are concerned. Blanket rulings have been found difficult to observe on the part of certain schools, particularly in the smaller communities. In some cases schools have rejected the federal subsidies on the ground that meeting the requirements for reimbursement would, in the judgment of local school authorities, be out of harmony with local needs.

The Foundation for the introduction of Smith-Hughes work in Michigan was well laid by the experiments in the field of manual arts that were introduced in several cities in the State as early as 1904. The ground had been prepared before 1917 and vocational education was thus spared many of the vicissitudes that usually accompany the introduction of a new educational program.

SUMMARY

Industrial Education of the Smith-Hughes type has moved steadily forward in Michigan since the passage of the Tuft's law in 1917. In 1918 eight schools had inaugurated programs containing one or more phases of industrial education. By 1936 forty-five schools representing thirty odd cities had established Smith-Hughes classes in industrial education.

State and local reports of these cities indicate that the development of the work has been determined for the most part by the needs and demands of each particular community.

School heads claim that certain factors have affected the progress of industrial education, for instance, the economic depression is said to have seriously curtailed evening school work and greatly reduced enrollment in part-time schools in some communities. In some other instances it was found that the demand for industrial courses was not sufficient to warrant continuing the work. However, with few exceptions, work once begun in any community has shown a healthy growth and already many of the cities that felt forced by economic measures to tentatively discontinue industrial courses have reestablished them.

Specific data regarding each city seemed unwarranted but it is believed that enough data pertaining to enrollment and expenditures in the various Smith-Hughes classes

have been given to the reader an adequate cross section of the development of the work in the state.

REFERENCES

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Chapter VI

WORK OFFERED IN VARIOUS TYPES OF INDUSTRIAL CLASSES

Any history of industrial education in Michigan would be incomplete which did not include some record of the types of industrial classes carried on in the state since the enactment of the Smith-Hughes Law.

Since each community presents a different industrial situation, and since it is generally recognized that each school should adjust its curriculum to the needs of the community, programs of industrial education vary considerably in cities of approximately the same size.

From time to time the State Board for Vocational Education has found it necessary to modify the suggestions made to schools in the Michigan State Plan in order to meet changing conditions. For instance, in 1918 the Michigan Plan suggested that five hours per week be devoted to general subjects and ten hours to related technical subjects. In 1922 this apportionment of time was changed to seven hours per week in general subjects and eight hours per week in related technical subjects. In the year 1918 the State Board did not specify the minimum amount of time to be devoted to each subject, but did say that it would not approve courses for federal aid if they did not meet a certain standard, based presumably on local conditions. But in the plans for 1922 and 1927 the Board set up definite minimum standards of time apportionment for each general and related subject in all schools or classes on the day unit-trade basis and in general industrial schools.

ALL-DAY TRADE SCHOOLS

As might be expected most schools introducing Smith-Hughes industrial classes started with a limited program and proceeded to modify it as conditions demanded. Many schools began with a single class. For instance, Detroit's first all-day trade work began in 1919 with one class in machine shop. Fifty-six students enrolled in this class during the entire year.

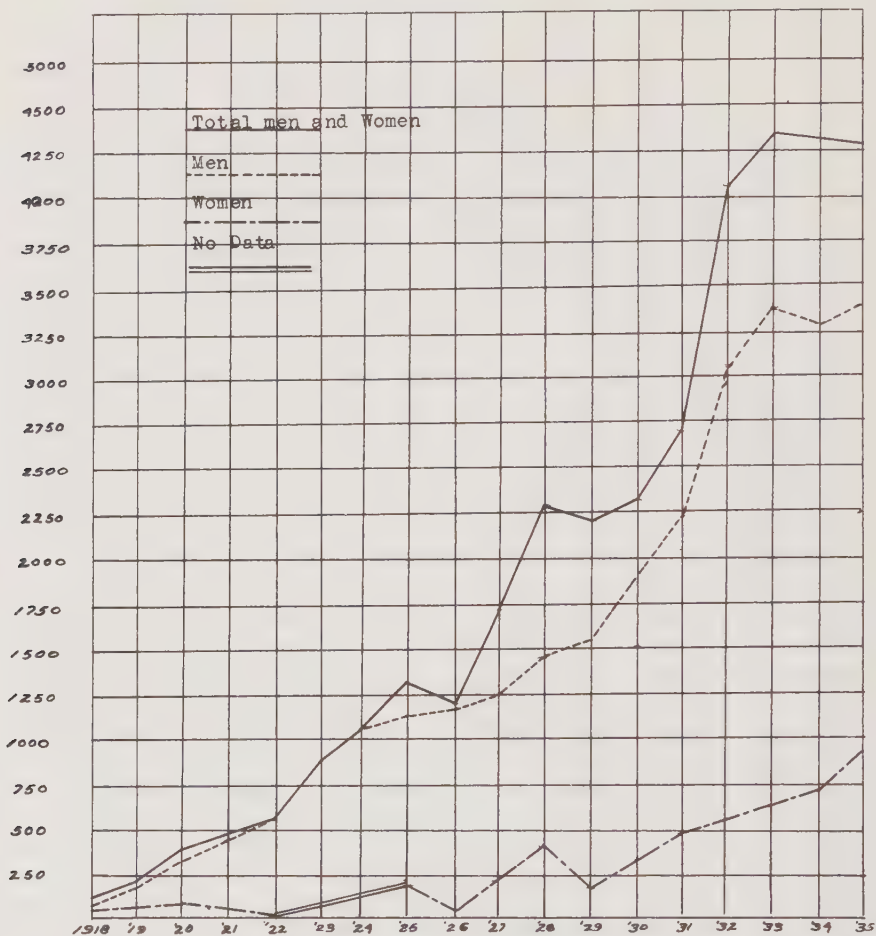


Fig. 1. Enrollment in All-day Trade and Industrial Schools or Classes from the Year 1918 to 1936

It is believed that the relatively slow expansion of all-day trade and general industrial schools or classes that followed was due to some extent to the fact that the training is highly specialized and expensive, at any rate it is clear that for these reasons the State Board of Control for Vocational Education did not greatly encourage their development.¹

¹Annual Report of the State Board of Control for Vocational Educational Education, 1932, p. 10.

A complete description of the development of each type of industrial education seems unwarranted here. However, a few statements pointing out the trends should indicate the increasing importance of this type of education in the modern school curriculum. Figure 1, page 136 pictures the growth in the enrollment of all-day trade classes, for both men and women, during the last eighteen years. It is noteworthy that the increase in enrollment was most pronounced during the depression. Reports of the State Supervisor of Industrial Education show that the length of the courses offered in all-day trade classes differ both according to locality and according to trade. This is seldom less than two years and more often it is three or four years. If a four-year course is provided the first year is, in most cases, general in character. A three-year course for machinists in the all-day trade group as recommended by the State Supervisor of Industrial Education and adopted by the first schools introducing all-day trade work, is presented as typical of the courses offered in all schools during the earlier period in the development of such classes.

Machinists' Course in All-Day Industrial Schools²

First Year

First Term

English	5 hours per week
Shop Mathematics	5 hours per week
Drawing	5 hours per week
Shop Work	15 hours per week

Second Term

English	5 hours per week
Shop Mathematics	5 hours per week
Drawing	5 hours per week
Shop Work	15 hours per week

Second Year

First Term

Industrial History	5 hours per week
Drawing	5 hours per week
Shop Mathematics	5 hours per week
Shop Work	15 hours per week

²Vocational Education Bulletin No. 207, February 7, 1918. State Board of Control for Vocational Education, pp. 8-9.

Second Term

Civics	5 hours per week
Hygiene and Safety	5 hours per week
Mechanics	5 hours per week
Shop Work	15 hours per week

Third Year

First Term

English	5 hours per week
Drawing	5 hours per week
Mechanics	5 hours per week
Shop Work	15 hours per week

Second Term

Economics	5 hours per week
Materials	5 hours per week
Shop Organization	5 hours per week
Shop Work	15 hours per week

Some interesting changes appear both in numbers enrolled and in trades represented when a comparison is made between the all-day trade classes of 1928 and 1934. This information is presented in the table on the following page as obtained from the Annual Reports of the Michigan State Board of Control for Vocational Education.

It will be noted from the table that the numbers enrolled in several types of work increased decidedly in the interval between 1928 and 1934 while some others remained stationary or declined. Not only is this so but the number of different occupations represented in the schools increased from thirteen in 1928 to twenty-seven in 1934. This expansion was the natural result of a movement designed to meet the needs of the group for whom the public schools had not previously made provision.

When we consider the question of the amount of time devoted to each subject we find from Table II that fifty per cent of the time is given over to shop work. This is in harmony with the provisions of the Smith-Hughes Law.

Along with the changes shown in Table II page 140 as to the apportionment of time between general and related technical subjects it is important to point out changes in time devoted to particular subjects included under the terms general and related technical work. In the State

TABLE I

Comparison of Enrollments for the Years 1928 and 1934 in
the Various All-Day Trade Classes in Michigan

Trade	1928		1934	
	Boys	Girls	Boys	Girls
Forge and Machine Shop	662		842	
Dressmaking		388		613
Auto Mechanics	170		364	
Electrical Work	126		268	
Drafting	94	5	344	
Cabinet making and Woodworking	94		47	
Printing	85	4	335	
Furniture Craft	43		43	
Furniture Design	39	6	30	2
Wood Finishing	33		19	
Spindle Carving	38		53	
Pattern making	26		82	
Painting and Decorating	10		15	
General Metal Work			149	
General Wood Work			226	
Mill Work			64	
Steam Engineering			14	
Metal Trades			211	
Airplane Service			13	
Commercial Arts			72	
Trade Cooking			2	4
Trade Sewing				29
Machine Operators			78	
Shoe and Tire Repair			119	
Machine and Bench Woodworking			51	
Auto Electric			56	
Cafeteria Work				90
Totals	1420	403	3497	761

Board plans of different dates shop drawing went through the following time apportionments per week; four hours, five hours, three hours, remaining finally at three hours. English, Civics, and Citizenship, taken as a group had the following evolution as to the time allotment per week; four hours, five hours, seven hours, and eight hours. Mathematics and Science have experienced the following changes in hours of instruction per week; six hours, five hours, five hours, and four hours.

Thus it is seen that twice the amount of time per week was devoted to general cultural and social subjects after the year 1929 as compared with the year 1917. Related drawing as well as related mathematics or science, or both, consequently received less emphasis than they did in earlier years. The related technical work has been conducted three hours per week less since 1929 in all-day unit trade schools or classes than in 1917.

TABLE II

Courses of Study Suggested by the Michigan Plan for Vocational Education Under Provisions of the Smith-Hughes Law for All-Day Unit Trade Schools or Classes

Year 1917 ³	Hours per Week
English and Civics	4
History of Industries	1 (General Subjects 5 hours)
Shop Mathematics	3
Shop Drawing	4 (Related Technical 10 hours)
Mechanics and Applied Physics	3
Shop Work	15 (Shop Work 15 hours)
Year 1919 ⁴	Hours per week
English	3
Citizenship	2 (General subjects 5 hours)
Shop Mathematics	5
Drawing	5 (Related technical 10 hours)
Shop Work	15 (Shop Work 15 hours)

The State Board does not specify the minimum amount to be spent for maintenance of each type of industrial course, but will withhold federal and state aid in any case where the board is convinced that the instruction is not properly maintained.

Year 1922 ⁵	Hours per week
General subjects including	7 (General subjects 7 hours)
Citizenship	7 (General subjects 7 hours)
Related Mathematics or Science or both	5 (Related Technical 8 hours)
Related Drawing	3
Shop Work	15 (Shop Work 15 hours)

³Michigan Plan for Vocational Education, Bulletin 201, December, 1917, p. 20.

⁴Michigan Plan for Vocational Education, Bulletin 201, July, 1919, p. 23.

⁵Michigan Plan for Vocational Education, Bulletin 201, July, 1922, pp. 29-30.

TABLE II (Cont'd)

At least thirty hours of instruction per week shall be given of which fifteen shall consist of shop work, approximately five shall consist of definitely related mathematics or science or both taught in segregated and special classes, and three hours shall consist of related drawing. The total time devoted to related subjects shall not be less than seven and one-half hours per week. The remaining time shall be devoted to general subjects in which citizenship and economics are to be included.

Year 1929 ⁶	Hours per week
General Subjects including	
Citizenship	8 (Related subject 8 hours)
Related Mathematics or	
Science or both	4 (Related Technical 7 hours)
Related Drawing	3
Shop Work	15 (Shop Work 15 hours)

At least thirty hours of instruction per week shall be given of which fifteen shall consist of shop work. Four shall consist of related mathematics or science or both, taught in segregated classes and three hours shall consist of related drawing. The minimum time devoted to related subjects shall be seven hours per week. As an alternative plan a school may give four hours a day or twenty hours per week of shop work and related work taught in the shop and in connection with the shop practice by the shop instructor. The remaining two hours per day or ten hours per week may be used entirely for general subjects.

During this period an interesting change in the organization of this type of industrial education in Detroit may well be noted. In 1929 there were nine Junior High Schools in Detroit in which industrial classes were partially financed from federal and state funds. Since 1929 this work has been eliminated from the Junior High Schools and centralized in three centers for boys and girls.

GENERAL INDUSTRIAL SCHOOLS OR CLASSES

The general industrial school or class is another means by which the work in industrial education is carried on. This type of work is intended for smaller communities

⁶Michigan Plan for Vocational Education Bulletin 201, Fifth Edition, Reprinted August, 1929 pp. 30-31.

where it is impossible to bring together a sufficient number of students interested in any one occupation to justify establishing a separate class.

As we found in the case of the all-day industrial classes, changes have been going on in the administration of this type of work. For example it will be noted in Table III that one and one-half more hours per week are devoted to general subjects in 1922 and succeeding years than was the case from 1919 to 1922. Related technical work has been conducted one hour less each week for the years following 1922. Shop work was reduced one-half hour, in the Michigan Plan for 1922, an arrangement which is still in effect.

TABLE III

Courses of Study Suggested by State Plan for General
Industrial Schools or Classes

Year 1919 ⁷	Hours per week
English	3
Citizenship	2 General subjects 5 hours
Industrial Mathematics	3
Drawing	4 Related Technical 7 hours
Shop Work in the Metal Trades	13 Shop Work 13 hours

The character and content of the courses of study were determined by the predominant trades or industries of the community, but it was required that a substantial background of academic work organized and conducted in close relationship with the industrial instruction be maintained. It was expected that the course would be organized about related groups of trades, as the building trades or the metal trades.

Years 1922-1927 ⁸	Hours per week
General Subjects including	
Citizenship	6½ General Subjects 6½ hours
Related Mathematics or Science	
or both	3 Related Technical 6 hours
Related Drawing	3
Shop Work	12½ Shop Work 12½ hours

⁷Michigan Plan for Vocational Education, Bulletin 201, 1919.

⁸The Michigan Plan for Vocational Education, Bulletin No. 201, 1922, Third Edition.

TABLE III (Cont'd)

In the State Plan adopted in 1922 the course of study consisted of at least two and one-half hours per day or twelve and one-half hours per week of shop work and one period per day or three hours per week of definitely related mathematics or science or both and not less than three hours per week of related drawing. The total time devoted to related subjects thus was not less than six hours per week. The time remaining was devoted to general subjects in which citizenship and economics were included.

Exactly the same plan for the general industrial school is found in the State Plan adopted in 1927 as was presented in the Michigan Plan for Vocational Education, Bulletin No. 201, July, 1922.⁹

EVENING INDUSTRIAL SCHOOLS OR CLASSES

Evening industrial classes are organized for students, sixteen years of age and over who are already employed, and who desire to acquire further technical knowledge or skill in the occupations in which they are engaged. These classes may meet at any hour of the day provided they are held outside of the regular working hours of the student.

In view of the fact that evening industrial school work is primarily individual and differs in different cities as the industries differ it is difficult to present a typical program which would apply in many cities or schools.

In general however, the technical and industrial subjects given up to the present time are confined to more or less standardized lines of work which meet the needs of large groups of men. However, some of the larger centers are now offering evening school courses in keeping with modern developments in industry, such as are welding, air-plane welding, aeronautics, electric refrigeration, Diesel engine, and air-conditioning.

PART-TIME CLASSES

The part-time classes were organized originally to provide additional school experience for young people who had gone to work, and who were required by compulsory

⁹The Michigan Plan for Vocational Education, Bulletin No. 201, 1927, Fifth Edition, pp. 32-33.

part-time attendance legislation to attend school a certain number of hours each week. As the law in Michigan concerning this work was mandatory only in those cities in which there were fifty or more minors who had separated themselves from the regular day school, only a few such schools were organized.

During the depression of 1929-36 jobs for these young people became so scarce that many of them remained in the day school, while many others who were older entered the part-time classes even though they were beyond the age under which they were required by law to attend.

Then, too, the rising age of entrance upon employment has decreased the enrollment in the part-time school and has brought about its replacement to a large extent by apprentice and cooperative classes, and junior vocational schools.

The course of study used in the Ionia part-time school offers a typical example of what is done in the smaller city conducting part-time industrial and general continuation classes. The changes in the courses are frequent and are adapted to a changing personnel. The following outline includes what was offered in Ionia from 1925-1930¹⁰ when the decrease in sixteen- and seventeen-year old enrollees was replaced by adults. Since 1930 more time has been spent on subjects concerned with home-making, recreation and guidance than with the general continuation subjects.

Part-Time Courses Used in Ionia

Courses and Subjects	Hours of Instruction in the Subject	
	Per Week	Per Year
English	2½	90
Home-making	4	160
Mathematics	3	120
Mechanical Drawing	1	40
Reading and History	1	40
Spelling and Writing	1½	60
Health	½	20
Shop 1-2-3-4	20	800
Social Science	1	40

¹⁰F. W. Dalton. A Survey of the Part-time Continuation Schools in Four Michigan Cities, 1933.

Part-Time Courses Used in Ionia (Cont'd)

Courses and Subjects	Hours of Instruction in the Subject	
	Per Week	Per Year
Specials	1	40
Bookkeeping		
Business Practice and Forms	2	80
Vocational Guidance	1½	60
Typing	4	160
Shorthand	5	200
Occupations	1½	60

Obviously, no student was enrolled in all of the subjects shown in the above data. English, Vocational Guidance, Spelling and writing and Health were required of all students, the other subjects were optional to make up an eight-hour per week program.

JUNIOR VOCATIONAL SCHOOLS

It has been said that in some instances the junior vocational school was taking the place of the part-time. It was suggested also that this type of school was of comparatively recent origin.

The following account of Junior Vocational schools in Michigan is condensed from unpublished reports of the State Supervisor of Industrial Education for the years 1934, 1935, and 1936.

The fact has already been pointed out that large numbers of boys and girls who formerly went to work either are or ought to be enrolled in our schools. The interest of this group centers around immediate or near future employment. Many of them are irregularly employed.

A part-time school which provides opportunities for full-time individual instruction on a flexible plan seems to be the most successful method of meeting the needs of this group. The curriculum is based on the fact that these young people are going to work at the earliest possible moment and are seeking instruction which will fit them to enter the world of employment as learners or apprentices. One-half of the school time is devoted to general industrial work in wood, metal, electricity, in some cases shoe and tire repair, and the necessary drawing and mathematics. The remainder of the day is spent on general education and recreational subjects. Boys with this general basic industrial training

frequently obtained employment more easily than those with more specialized training but the jobs were less permanent, a fact which necessitated a return to school at irregular intervals. To sum it up briefly there seems to be a need for a school of this type which operates on an all-day trade or part-time basis or both depending on employment conditions. The controlling purpose of the instruction is to prepare pupils for employment in general industrial occupations. The chief objective is to develop work habits and attitudes, adaptability and general industrial intelligence rather than specific occupational skills. It is also the aim of the school to prepare pupils for intelligent participation in the solution of social and economic problems that concern them as citizens and as workers. The door of advancement is not closed to any pupil. If his work is such as to warrant it and he so desires, he may return to the regular high school or enter a more advanced course to prepare for a skilled trade.

The enrollment in these schools in 1934 was 1,726 boys and 202 girls, an increase of over 400 in two years.¹¹

PART-TIME COOPERATIVE COURSES

Provision has been made in a number of Michigan cities for pupils to spend half time in school and half time in employment on a cooperative training program.

In Marquette certain students spend one-half day in regular high school subjects and the other half day in commercial shop. In this city fifty-three different types of occupations have been entered by students since 1933.

In Detroit individual instruction methods are featured throughout the Wilbur Wright High School which is operated on the cooperative plan. By means of these methods several unusual innovations are possible. The Wilbur Wright Cooperative High School catalogue¹² indicates that pupils enter and leave at intervals, which are not necessarily coincidental with the standard school semesters. The time of entry is governed by the satisfaction of entrance requirements, and the time of leaving by the completion of the course requirements. Graduation exercises are held once each year. Courses are laid out in sections or units,

¹¹Unpublished Reports of State Supervisor of Industrial Education for Michigan, for the years, 1934, 1935, 1936.

¹²Wilbur Wright Cooperative High School Catalogue, 1936, p. 10.

and the completion of a unit to the satisfaction of the department head entitles the pupil to the privilege of proceeding with the next unit. Thus progress is based on the pupil's industry and ability, rather than on time and the progress of other individuals in the same courses.

The training program of the Wilbur Wright Cooperative High School is divided into six divisions, as follows:¹³

Automotive Maintenance	Manufacturing
Commercial	Graphic Arts
Decorating	Power Plant Engineering

As typical the course in automotive maintenance is presented.

"It is the intention of the school in this program to qualify the graduates as automotive service and airplane motor mechanics for regular positions in garages, service stations and airports.

"The course is strictly of a trade nature and all subjects have a direct bearing on automotive service.

"The trades represented include:

Automotive Mechanic	Carburetor Specialist
General Repair Man	Bumping and Painting
Electrical Specialist	Battery Service

"The course is intended to provide the pupil with a general knowledge of automobile and motor service and repair, and to provide skilled workers for the trade. The first year's work is entirely in the school, while in the second and third years the student who has shown fitness for the work alternates between school and shop in two-week periods."

The outline of a three-year program follows:

OUTLINE OF COURSE¹⁴

First Year

Time Schedule

50% in School Garage

50% in Related Subjects

First Half	Second Half
Related Subjects	Related Subjects
English	English
Mathematics	Mathematics

¹³Ibid.

¹⁴Wilbur Wright Cooperative High School Catalogue, 1936, p. 12.

OUTLINE OF COURSE (Cont'd)

Technology	Auto-electricity
Drafting	Civics
Science	Electives
Supervised Study	Supervised Study

Shops	Shops
Mechanics	Garage
Theory	Theory

Third Year

Time Schedule

50% in School or Service Garages
50% on Related Subjects

First Half	Second Half
Related Subjects	Related Subjects
English	Economics
Technology	Technology
Auto-electricity	Elective
Elective	Supervised Study
Supervised Study	

Shops	Shops
Garage	Garage

It should be recalled that Lansing had one of the first courses of the cooperative type in Michigan and carried on the work from 1912-1932. The work was discontinued in 1932 because of conditions in the industrial plants caused by the depression which began in 1929. This course carried through the last three years of high school and had a definite program as indicated by the following:

Tenth Year

First Half	Second Half
Apprenticeship	Apprenticeship
Shop Mathematics	Shop Mathematics
Mechanical Drawing	Mechanical Drawing
Shop Theory	Shop Theory
English	English
Physics	Physics

Eleventh Year

First Half

Apprenticeship
Shop Mathematics
Chemistry
Drafting
English
Physics

Second Half

Apprenticeship
Shop Mathematics
Chemistry and First Aid
Drafting
English
Physics

Twelfth Year

First Half

Apprenticeship
Chemistry
Drafting
English
Physics

Second Half

Apprenticeship
Chemistry
Drafting
English
Physics

DIVERSIFIED OCCUPATIONS COURSES

Although similar in some respects to the cooperative program already described, courses of this type are of recent origin in Michigan as they were unknown in Michigan until the beginning of the year 1936-37 when work was started simultaneously in Dowagiac, Lapeer and Pontiac. At the beginning of the second semester of this year the plan was introduced into the schools of Ferndale and evidence began to appear that many other communities had become interested in the possibility of adding it to their curricula. They are considered definitely as cooperative apprenticeship courses and are open only to individuals who are students in the high school and who have completed the tenth grade. The student spends one-half of the day in school, during which time he pursues two hours of work in subjects related to his occupation. The remaining time of the half-day in school is devoted to regular high school subjects. The other half of the day is spent in his chosen occupation. The related subjects are dependent upon the occupation. However, one course that is given in all three cities, which all students must take is a course termed "Business Principles" but which is in reality a combination of fundamentals of economics, business practice, business psychology, practical law, elements of sociology and social science. This course is given primarily for the purpose of developing a desirable attitude toward the everyday job.

While each city will differ somewhat in the occupations available for apprenticeship, the types of occupations in which students are employed in Lapeer may be considered typical. These occupations are: plumbing, welding, auto-mechanics, machinist, drafting, printing, tailoring, banking, photography, mechanical dentistry, electrical appliance, super station attendant, shoe stores, clothing stores, ladies' ready to wear stores, veneer factory, lumber yard, and dairy farming.

With the exception of the recognized trades the apprenticeship periods are relatively short in length. Not less than 2000 clock hours of combined school and work experience is required in any occupation.

SUPERVISED CORRESPONDENCE STUDY

Benton Harbor carries on a type of work not reimbursable under the state plan, but which has vocational significance. In 1922-23 arrangements were made by S. C. Mitchell, principal of the high school, for a few of his pupils to obtain vocational preparation from a correspondence school. At first each pupil's correspondence course was done under the supervision of the principal. Later, after Mr. Mitchell became superintendent of schools, the work was taken over as a public school project and a full time teacher employed as a director of correspondence courses. The Benton Harbor Board of Education agreed to pay the fees, believing that this was not only the most economical way but also the only way in which they could provide such vocational preparation as their high school pupils needed.

In 1936, 246 students were enrolled in various types of vocational work among which were advertising, airplane engineers, automobile repairing, commercial art, electrical engineering, and accounting.¹⁵

SUMMARY

It has been pointed out that the work in Industrial Education in Michigan has changed materially during the period from 1918 up to the present time. In order to summarize the changes that have been taking place the following list includes what are perhaps the most significant.

¹⁵Myers, George E. The Problem of Vocational Guidance. Macmillan and Company, 1929, p. 154.

1. Both the enrollment and the number of different courses offered in the all-day classes have increased tremendously during the period from 1928 to 1934.

2. It was found, too, that in this same type of school the time devoted to academic work had been doubled in the period from 1917 to 1929.

3. In Detroit this type of work has been moved from the nine junior high schools in which it was started and has been concentrated in three centers.

4. The most significant change in the field of part-time education has been extension of the work to include young people who have been barred from most occupations until they are beyond the part-time school age.

5. Another tendency in this field is to organize junior vocational schools and provide for all young workers, either actual or prospective, in one building.

6. The tendency seems to be to replace the older cooperative courses with the newer diversified occupation course.

REFERENCES

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Chapter VII

THE TRAINING OF TEACHERS

If industrial education is to be carried on effectively there must be available from some source a supply of well-trained teachers. The advent of the National Vocational Education Act found the states with almost no experience in training teachers of trade and industrial subjects. Therefore the training of such teachers brought the Federal and State Boards into an almost entirely new field. The World War complicated the problem by making it difficult to induce men to take such training, since qualified men were already well employed.

Several possible sources and means of obtaining teachers of trade and industrial subjects were considered. First, it was thought by some that a potential supply was available in the institutions that were training teachers of manual arts since the feeling prevailed in some quarters that manual training and vocational trade and industrial education are closely akin. It was discovered, however, that the students in the courses in these institutions generally lacked adequate occupational experience. Furthermore, it was found that the objectives of the instruction in manual arts were different from those of instruction in trade and industrial subjects.

Students in engineering colleges seemed to be another potential source of supply for teachers of trade and industrial subjects. Many of these students have had some industrial experience before coming to college. In addition to this, the engineering shops provide a means of training which, it was thought, might serve as a substitute for first-hand experience in trades and industries. With this experience as a background it was believed that if the students were given certain teacher-training courses they might become successful teachers of trade and industrial subjects. The difficulties with this plan were that the training offered by the engineering colleges for the purpose of preparing engineers was not adapted to preparing such teachers. Furthermore, it was felt that it would be

impracticable to ask engineering colleges to modify their major purpose in order to enter the field of teacher training.

The trade and industries themselves seemed to present a third source of supply of teachers. Experience in Massachusetts¹ had demonstrated the possibility of securing in industry individuals who were occupationally competent and who also possessed other characteristics which helped to qualify them as teachers in trade and industrial education. For two reasons it was found difficult to train such men in the colleges and universities: first, few of them could afford to stop earning for the purpose of attending school for any considerable length of time.

Under these conditions the Federal Board for Vocational Education was indisposed to attempt a standardization of policy or to give final approval to any one procedure that might be set up. In order to stimulate the states into a recognition of the need there had been included in the Smith-Hughes Law a provision by which a special fund, now amounting to \$1,090,000² is annually appropriated for the purpose of cooperating with the States in preparing: (1) teachers, supervisors, and directors of agricultural subjects, (2) teachers of trade and industrial subjects, (3) teachers of home economics. The appropriation is allotted to the States on the basis of their total population, except for the sum of \$90,000 which is appropriated, or so much thereof as may be needed, to bring up allotments to each State to a minimum of \$10,000.³

A State may participate in these appropriations only to the extent that it provides State or local money in at least equal amount for joint expenditure with Federal money for teacher training. The maximum and minimum per cent of the Smith-Hughes allotment made to each State that may be spent for teacher training in each of the three fields has been fixed by law at not less than 20 per cent and not more than 60 per cent of the total. Provisions of the Act place further emphasis upon the importance of vocational teacher training by providing that no State may receive any appropriation for salaries of teachers, supervisors, or directors of trade, home economics, or industrial subjects until

¹Bulletin No. 15, Federal Cooperation in Education, 1933. United States Office of Education, p. 241.

²Section 4, Smith-Hughes Law, Appendix.

³Ibid.

it has taken advantage of at least the minimum amount appropriated for training teachers, supervisors, or directors of those subjects. A similar provision governs salaries of agricultural teachers.

The teacher training program provided for by the appropriations must be carried out under the supervision of the State Board for Vocational Education, and it must be given under public supervision and control. Such training may be given only to persons "who have had adequate vocational experience or contact in the line of work for which they are preparing themselves, as teachers, supervisors, or directors, or who are acquiring such experiences or contact as a part of their training." The State Board is required to establish minimum requirements for such experience or contact, subject to approval of the Federal office.

Except as noted in the preceding paragraphs, the National Vocational Education Act does not set up standards or policies to be followed in training vocational teachers. These matters are decided upon by those in charge of teacher training in the States in cooperation with the State and Federal Boards. In their efforts to bring about this cooperation different plans were adopted in the various states. In Michigan the State Board delegated the task of training teachers of trade and industrial subjects to the University of Michigan.

In carrying out its responsibility the State Board for Vocational Education in Michigan adopted a plan in 1923 for the approval of shop, related subjects and general continuation teachers. Under this plan teachers were given an A, B, C, or temporary rating. Local communities were reimbursed on a higher percentage basis for the salaries of teachers with A or B rating than for a C or temporary rating.

The problem of securing satisfactory teachers was especially acute in the case of trade and industrial teachers since there were many separate trades to consider and since the teacher in each case had to be skilled in the trade to be taught. Many teachers were needed exclusively for evening trade extension classes and it was not found practicable to require men in skilled trades to graduate from the University before they could qualify for this work. Indeed, it did not seem practicable to require men to spend

any time at the University before they began to teach. Accordingly, from the beginning, a program of professional training for trade and industrial teachers was set up which provided for late afternoon and evening courses in the industrial centers of the state. In this manner persons who were employed during the day, whether as shop teachers or as mechanics, could obtain in their home cities the professional preparation required by the State Board. To this program were added, after a time, provisions for help to individual teachers in solving their particular teaching problems, such as working out courses of study, preparing lesson and job sheets, and the like.

A considerable number of courses have been offered on the campus as will be noted by referring to page 166. Much of the campus work has been for the purpose of acquainting high school teachers, principals, and superintendents with the problems of vocational education and vocational guidance. A steadily increasing amount of attention has been given to graduate work with vocational teachers and supervisors of experience who are seeking higher degrees.

Early in 1936 the State Board for Vocational Education set forth several changes in the certification requirements for trade and industrial teachers. These changes became effective July 1, 1936⁴ and are presented so that a comparison may be made with qualifications which were in effect in 1921 and which were essentially the same as those in 1924 when the plan for classifying teachers in the four grades temporary, C, B, and A was set up.

REGULATIONS CONCERNING THE CERTIFICATION AND PROFESSIONAL IMPROVEMENT OF TEACHERS OF TRADE AND INDUSTRIAL AND GENERAL CONTINUATION SUBJECTS

As an indication of the changes and development in the regulations concerning certification of teachers, the plans as set forth in 1924 and in 1936 by the State Board of Control of Vocational Education are presented respectively.

The 1924 Requirements⁵

1. Teachers having the minimum qualifications in experience and training as shown by their qualification blanks may be given "temporary approval" as shop, related subjects

⁴Bulletin 230, State Board of Control for Vocational Education, June 1, 1936.

⁵Michigan Vocational News Bulletin, September-October, 1924.

or general continuation teachers for one year. Special reading or a correspondence course may be required.

2. To receive a rating of C, at least two approved vocational education courses of two hours credit each as indicated by the Department of Industrial Education of the University or their equivalent must be completed.

(a) A fundamental course, such as Social and Economic Background of Vocational Education, Introduction to Vocational Education, or (for part-time teachers) a course on Compulsory Part-time Schools.

(b) A course in special methods of teaching industrial, home economics, or general continuation subjects.

These courses may be taken in summer school, in extension classes, or when possible by correspondence. Teachers whose experience is satisfactory and who have completed the above two courses or their equivalent will be approved as Class C vocational teachers.

3. Teachers may remain as approved Class C teachers for two years only. At the end of that time the approval must be renewed. The renewal will depend upon the amount of self-improvement, work done, practical experience gained, and success in teaching. Approval may be refused in case no self-improvement work has been done and no practical experience gained.

4. Teachers whose experience is satisfactory and who have completed two additional two-hour courses in vocational education or have obtained the equivalent in vocational experience beyond the fundamental courses required of Class C teachers will be given permanent approval as Class B teachers.

5. To reach Class A, teachers must achieve marked success as teachers or administrators. In addition, shop teachers and teachers of related subjects in Class A must have the confidence of their fellow craftsmen. A uniform requirement is that a special piece of work be done under the direction of the University of Michigan and approved by the State Department. Such work is not to be that ordinarily done in class teaching or school administration and of sufficient scope to be useful throughout the State.

Present Certification Requirements.⁶ The present requirements are not retroactive and apply only to teachers who have not reached a temporary or higher rating prior to July 1, 1936. Teachers with temporary or "C" rating which have expired will be subject to these requirements. Teachers having a "B" rating prior to July 1, 1936 are exempt from the requirements for maintaining its validity as given in paragraphs VII-A and VII-B which follow. If, however, they wish to secure an "A" rating they must show evidence of having met these requirements within three years prior to the date of application for an "A" rating. This is in addition to the present requirements for an "A" rating.

Teachers preparing to enter the vocational industrial field of teaching for a part or all of their time should plan their courses with these requirements in view and consult a member of the vocational teacher training staff in regard to courses available in this field. These vocational industrial teacher training courses are given by approved teacher trainers in approved institutions and are offered both as resident and extension courses. The required courses in English, sociology, economics, and psychology may be taken in any institution of college grade.

Students desiring to take courses in vocational industrial education at teacher training institutions outside the state should have these courses approved beforehand in case they intend to submit them in fulfillment of requirements for vocational certificates.

I. REQUIREMENTS FOR TEMPORARY CERTIFICATES

A. Shop Teachers

A shop teacher must be master of his trade and for a Temporary certificate have the following qualifications:

1. A certificate to teach industrial arts or four years of engineering training beyond high school and three years of approved practical experience in the trade to be taught.
2. Four years of high school or equivalent and four years of approved practical experience in the trade to be taught.

⁶Regulations Concerning the Certification and Professional Improvement of Teachers of Trade and Industrial and General Continuation Subjects, effective July 1, 1936. Bulletin No. 230, State Board of Control Vocational Education.

3. Two years of high school or equivalent and five years of experience in the trade to be taught.
4. Seven years of approved practical experience in the trade to be taught together with a knowledge of related subjects.
5. Some other satisfactory combination of education and practical experience depending on the trade and type of school in which the teacher is employed.

A temporary certificate is valid for two years only during which time the teacher's work must be satisfactory and approved by the State Supervisor. All teachers having Temporary certificates must complete the requirements for a "C" rating within two years and be approved by the State Supervisor.

B. Related Subjects Teachers

1. A qualified vocational shop teacher may be employed to teach related subjects and the same requirements as to teacher training and general courses shall apply and his rating as a related subjects teacher shall be the same as his rating as a shop teacher.
2. A candidate with two years of technical training beyond the high school and one year of approved consecutive industrial experience may be certificated as a related subjects teacher and he shall meet the same requirements as to teacher training and general courses as vocational shop teachers.

C. General Continuation Teachers

A general continuation teacher must meet the general standards for state certification and in addition to or in connection with such standards, complete the requirements as to vocational teacher training courses for a "C" and "B" rating under the same conditions as prescribed for shop and related subjects teachers.

No general continuation teacher may be given a "B" rating without at least three month's industrial or commercial experience. Approved experience as a social worker will be accepted.

II. ADDITIONAL REQUIREMENTS FOR CERTIFICATE WITH A "C" RATING

In order to obtain a "C" rating, persons having Temporary vocational certificates as teachers, of Day Trade, Part-time or Part-time General Continuation classes must have completed two semester hours in English, two semester hours in economics or sociology, and six semester hours in the field of vocational industrial education with the approval of a member of the teacher training staff from the courses listed in paragraph IV below, and offered in an approved teacher training institution. They must also have successfully taught classes of Smith-Hughes standard for a period of one year. The required courses may be taken in summer school, in extension classes, or when possible, by correspondence. The certificate with a "C" rating is valid for two years only and during that time the candidate must complete the requirements for a "B" rating.

III. ADDITIONAL REQUIREMENTS FOR A PERMANENT CERTIFICATE WITH A "B" RATING

- A. For a vocational certificate with a "B" rating, teachers having a "C" rating must have completed in addition, two semester hours in economics, sociology, vocational psychology or educational psychology, and six additional semester hours in the field of vocational education selected from the courses listed below.

The candidate must also have successfully taught classes of Smith-Hughes standard for a period of two years. The "B" certificate is permanently valid as long as requirements for maintaining its validity are met within each three-year period as stated in paragraphs VII-A and VIII-B below.

IV. VOCATIONAL EDUCATION COURSES ACCEPTED FOR CREDIT TOWARD "A", "B" OR "C" RATING

These courses are offered free of charge to all persons desiring credit toward a Smith-Hughes rating only. Those who desire University credit are required to pay the regular tuition fees.

1. Making courses of study.
2. Methods of teaching and class management.

3. Individualized instruction.
 - *4. Principles of vocational education.
 - *5. Trade and job analysis.
 6. Techniques in gathering and using vocational information.
 - *7. Vocational guidance and placement.
 8. Apprenticeship and Coordination.
 - *9. Legal and industrial relations aspects of vocational education.
 10. Aims and objectives of part-time and pre-employment schools.
 11. Special methods for general continuation teachers.
- *Courses starred are required of all vocational teachers.

V. REQUIREMENTS FOR A CERTIFICATE WITH AN "A" RATING

- A. An "A" rating cannot be obtained simply by securing additional hours of credit over and above those required for a "B" rating. A definite problem selected in conference with a member of the teacher training staff and approved by the State Supervisor must be undertaken by the candidate and carried to satisfactory completion. College credit may be obtained for this work provided the necessary requirements are met. The "A" rating is given only to those who complete their work in a manner satisfactory to the institutions concerned and to the State Supervisor. The candidate must also have achieved marked success as a teacher or administrator.

VI. SUGGESTED PROBLEMS FOR AN "A" RATING

- A. 1. Organization of at least a one-year course of study for a given trade or group, with adequate presentation of educational theory, methods, and standards to be used, also evidence of try-out with one or more groups and results.
2. Vocational Information Studies.
Employment experience of part-time and day pupils.
Vocational education opportunities in the community.
Employment opportunities.

3. Experimental Work in a School under Direction.

Organization of day to day instruction material, with try-out and daily records.

Criticism of significant parts and the whole.

Analysis of pupils' records of progress for the experimental period.

Presentation with data in report form.

4. Case Study of Vocational Pupils.

Diagnostic study for improved technique in handling all types of pupils effectively.

- B. The "A" rating is permanent as long as the teacher shows by his work, professional attitude, and records and reports that he continues to be entitled to such a rating.

VII. PROFESSIONAL AND PRACTICAL IMPROVEMENT REQUIREMENTS NECESSARY FOR TEACHERS TO MAINTAIN THE VALIDITY OF CERTIFICATES WITH A "B" RATING

A. Shop and Related Subjects Teachers and General Continuation Teachers.

These teachers must spend sufficient time pursuing resident or extension courses to secure a minimum of four semester hours credit during every three years of teaching employment. These courses may be elected in any field and need not be confined to the field of vocational education. In addition, these teachers must also meet the requirement of six weeks' employment or observation in industry or commercial work as explained in paragraphs VIII-A and VIII-B below.

Teachers having a Master's Degree are exempt from the requirement of securing four semester hours credit but are held to the requirement of six weeks of employment or observation in industry or commercial work during every three years of teaching employment. The summer employment requirement can be met only by actual employment or observation during the summer months or by leave of absence during the school year. Employment must be reasonably continuous.

VIII. SUMMER EMPLOYMENT REQUIREMENTS SATISFIED BY OBSERVATION

A. Shop and Related Subjects Teachers.

These teachers are to study in industry the trade or occupation which they are engaged in teaching or an allied trade under one of the following conditions:

1. In One Community

- a. Machines
- b. Tools
- c. Shop organization
 - 1. Personnel
 - 2. Planning and Routing Procedures
 - 3. Safety
 - 4. Records
 - 5. Production Control
 - 6. Shop Layout
 - 7. Time and Cost Accounting
 - 8. Storage and Stock Rooms
- d. Special Manufacturing Processes
- e. Plant Training Programs

2. In More than One Community

This plan is intended to meet the needs of the teacher who desires to travel and at the same time to meet the requirements through the study of plants outside of his own community. The same outline as given above should be followed.

B. Part-time General Continuation Teachers

These teachers are to observe and study commercial or industrial occupations in which general continuation students may be or are employed, such as office work, retail selling, routing factory employment, and personal service. The study should be made with a view to making the work in commercial subjects, arithmetic, social science, safety and hygiene more effective. Such a study should cover:

- a. Types of work open to young persons of this type.
- b. Numbers employed in each.
- c. Possibilities of promotion.
- d. Qualifications necessary.
- e. Moral and physical hazards to be met.
- f. Plant training programs.

- Note 1. Careful consideration should be given to the type of employment engaged in or observed in order that the experiences may be most effective in teaching.
- Note 2. The total time spent in observation and study of a trade or occupation or of a number of occupations should be equivalent to time spent in employment for a six-weeks' period. This means a total of 180 clock hours in actual observation, compilation of data and writing of report.
- Note 3. Each report must be attested by some executive of the plants or establishments studied to show evidence of time spent and accuracy of report.
- Note 4. Each report should contain recommendations as to changes in equipment, methods of teaching and courses of study in order to meet the changes and new conditions which the teacher has observed.
- Note 5. The report must be typewritten and sent to the state office not later than September first of the year in which the study is made.

TEACHERS OF EVENING AND SPECIAL PART-TIME CLASSES

Special certificates valid for one year will be issued to vocationally qualified persons employed as teachers of evening and special part-time classes only. These certificates will be renewed from year to year as long as the person continues to do satisfactory work and meets such other requirements as may be set up.

When the State Board delegated the responsibility for the training of teachers in the field of Industrial Education to the University of Michigan President Hutchins undertook to secure the necessary personnel to carry out the work. The following statements concerning the members of the staff are presented here merely in order that there be a record of the development of the department.

PERSONNEL OF TEACHER TRAINING STAFF

Dr. George E. Myers, who has been the head of the Department of Vocational Education at the University of Michigan since its inception, November 1, 1917, received his early training and bachelor's degree in Kansas, took his master's degree from the University of Chicago and his doctorate from Clark University. He also spent one year

studying industrial schools in Europe. Dr. Myers has had the major portion of his professional experience in the field of vocational education, having served as principal of the technical high school in Washington, D.C. and as supervisor of industrial education in New York City. He has made numerous contributions to educational periodicals, has written two text books that are used extensively throughout the country, and has been active as a member of state and national professional organizations. Previous reference has been made to his sponsorship of the James Act in Michigan which was only one of the several legislative educational measures in which he has lent valuable assistance in bringing the measures to a successful passage.

Professor Cleo Murtland, who came to the department in 1919 as Associate Professor of Vocational Education, received her early education in the public schools of Pennsylvania, her professional work at Teachers' College Columbia University, B.S., 1917 and M.A., in 1921. Before coming to Michigan Miss Murtland spent several years teaching and supervising trade education for girls, serving as principal of trade schools for girls in Worcester, Massachusetts and Philadelphia, Pennsylvania. She also assisted in several important research activities having to do with industrial education, besides acting as chairman of several committees whose purpose it was to investigate needs in the field of vocational education. Her research work necessitated that she make studies of many industries, which furnished her with valuable experience in her work at the University of Michigan. Since coming to Michigan Miss Murtland has, besides her campus and extension duties, carried on many studies of an occupational nature involving both individuals and groups. Her contributions to the professional magazines have been largely concerned with women's occupations.

Professor Thomas Diamond, Associate Professor of Vocational Education, came to the University of Michigan in September, 1919 from the University of Wisconsin where he had been assistant professor of vocational education for the years 1916 to 1919. Professor Diamond received his technical training and part of his industrial experience in Great Britain and his professional training in the University of Wisconsin and the University of Michigan. His first work in connection with the Vocational Education Department in the University of Michigan was largely concerned with the training of foremen, a discussion of which follows under the head of Foremanship Training.

E. Lewis Hayes, now Principal of the Wilbur Wright Trade School in Detroit, has been connected with the teacher training activities of the University on a part-time basis since 1918. Mr. Hayes, besides being the first addition to the staff, was the first teacher in Detroit to be placed in charge of Smith-Hughes classes. The Wilbur Wright Trade School evolved from what was known as the Boys' Continuation School of which Mr. Hayes was principal.

For several years the practice has been followed of granting a year's assistantship to some man desiring to do graduate work in the field of vocational education. This practice was discontinued in 1936. F. X. Lake was the only man to carry on the assistantship work for a period longer than a year, having filled the position from 1931 to 1933 inclusive.

In September, 1931, F. W. Dalton came to the University as research assistant in the vocational education department. In addition to the work in research Mr. Dalton carried on conference work for retail selling besides assisting in the general extension work of the department which will be discussed later.

From time to time leaders in the field of industrial education have been brought to the department for the purpose of adding needed courses during the summer sessions. A few such instances have also occurred during the academic year.

Teacher training began at the University in the Education Department of the College of Literature, Science and the Arts in February 1918 when Dr. Myers gave a course which had for its primary purpose that of acquainting educators with the various phases of the laws governing industrial education. From that beginning, courses were added from time to time as conditions seemed to warrant. In 1921 a Department of Industrial Education was established in the new School of Education, which has been maintained continuously since that time. The following chart will give some idea of the different courses that have been offered during the years that industrial education has been a part of the University curriculum.

It should be pointed out, in interpreting this chart, that only the new courses offered each year are included; consequently the record does not show the number of courses given in any one year.

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Year	Number of Course	Name of Course
1918-19	62	Introduction to Vocational Education
	60	The Teaching of Industrial Subjects
	61	Organization and Administration of Vocational Education
1919-20	67	Surveys Bearing on Vocational Education
	68	The Compulsory Part-time School
	63	Organization of the Vocational School for Girls
	64	Methods of Teaching Women's Trades
	66	Methods of Teaching Mechanical Drawing
1920-21	69	Vocational Counseling
	s70	Methods in Foremanship Training
	s65	Methods of Teaching Industrial and Mechanical Science
	s72	The Social and Economic Background of Vocational Education
	s73	The Teaching of General Continuation Subjects in the Part-time School
1921-22	106	Problems in Vocational Guidance
	105	Problems in Vocational Education
	108	Teaching Related and General Continuation Subjects in the Part-time School
1922-23	109	Seminar in Vocational Education
	111	Vocational Counseling
	s112	Prevocational Education in the Junior High School

Year	Number of Course	Name of Course
1922-23 (Cont'd)	s113	The Administration of Vocational Education
	s201	Seminar in Vocational Education and Vocational Guidance
1924-25	E115	Techniques of Selling
	E116	Merchandise Information
1926-27	E107	The Technique of Securing and Using Vocational Information
1927-28	E116s	Junior Employment and Selection
1928-29	E153	Methods of Teaching Bookkeeping and Related Subjects
	E154	Methods of Teaching Shorthand and Related Subjects

The list of courses that follow include all the courses offered and have all been rearranged to meet the requirements set up by the State Board of Control for Vocational Education and the Department of Industrial Education

1936-37	E 10	Course Construction
	E 14	Methods of Organizing and Conducting Evening School Classes
	E100	Principles of Vocational Education and Guidance
	E101	Vocational Guidance and Placement
	E102	Legal and Industrial Relations Aspects of Vocational Education
	E103a	Methods of Teaching Trade Subjects
	E103b	Individualized Instruction Methods
	E104	The Part-time Continuation School
	E105a) E105b)	Special Problems in Vocational Education

Year	Number of Course	Name of Course
1936-37 (Cont'd)	E106	Coordination in Vocational Education
	E107a)	Techniques of Securing and
	E107b)	Using Vocational information
	E108	Industrial Studies
	E109	Technique in Making Trade and Job Analyses
	E110	Conference Leading
	E111	Problems in Apprentice Train- ing
	E113	Administration and Supervision of Vocational Education
	E114	Curriculum Construction in Vo- cational Education
	E201a)	Seminar in Vocational Educa-
	E201b)	tion

A study of this list will indicate to the reader that many different courses have been offered from time to time, obviously with the intention of meeting the apparent needs of the teachers in the field. It will be noticed also that in 1936-7 a rather diversified list of offerings has been presented. A detailed description will be found in the School of Education catalogues which indicates a definite trend toward providing only courses having to do with the teaching of industrial education. In addition to these offerings, members of the department meet with small groups and even individual teachers for the purpose of helping them in any of the problems with which the teacher may be confronted.

The commercial courses offered were not financed by Smith-Hughes funds.

It is true also that courses with the same name and number varied from year to year as conditions and experiences necessitated. It should be made clear that the work of the staff responsible for teacher training has not been confined to the formal courses listed above.

EXTENSION SERVICE - IN-SERVICE TRAINING

According to Federal Bulletin No. 15, 1933, when the teacher-training program was first organized, the emphasis was on the pre-employment training of teachers and very little attention was given to the training of teachers in service. However, in Michigan Dr. Myers began a class in Detroit at the same time as he began his work on the campus and Professors Diamond and Murtland and Mr. Hayes carried on extension and in-service work from the beginning.

Such agencies as the Summer schools and extension classes were not as popular then as they became ten years later. Little is known of the itinerant teacher-trainer. However, the in-service training of vocational teachers was by no means entirely overlooked. It was in recognition of the need for such work that the Federal Board for Vocational Education in 1918 announced a special ruling granting States permission to use teacher-training funds for part payment of salaries of qualified State Supervisors. This extension of the use of teacher-training funds was made on the theory that supervision had to do primarily with the improvement of teachers in service. This ruling has had important consequences in the development of plans for the improvement of teachers according to a statement in Federal Bulletin No. 15, 1933. However, it was not until 1925 that the Federal Board concluded that the improvement of teachers in service was the most important problem in the field of teacher training, particularly in the case of part-time and evening-school teachers.

The need for in-service training of vocational teachers and the rulings of the Federal Board resulted in a rapid development of service for the improvement of teachers and teaching. Part of this development has been effected through specific courses in Summer schools. Extension courses and Saturday classes, which have been provided by the Department of Vocational Education in the University. Other forms of in-service training have been provided through State and sectional meetings or conferences of vocational teachers and through correspondence courses.

Important assistance is given to individual industrial teachers through what is called an itinerant teacher-trainer. While this type of work is done only at the request of the State Supervisor or when called for by some teacher in the field, considerable effective help has been rendered to teachers who otherwise would have had no opportunity to obtain the help needed.

Foreman Training. Included in the program of training trade and industrial teachers is the work of training foremen as instructors. The educational work being carried on among foremen in Michigan was started soon after the World War during the period in which manufacturers were searching frantically for any scheme which would insure them a reasonably contented working force. Kept at a high level of effort under the war stimulus, industrial workers rather generally suffered a decided break in morale when peace came.

The feeling of uneasiness was so general among manufacturers in Grand Rapids that a request for help was sent to President Hutchins of the University. As a result Professor George E. Myers, of the University, met with a group of plant managers in Grand Rapids which was called together for the purpose of considering the problem of improving morale among the workers. Following the suggestions of this meeting, Dr. Myers organized in the spring of 1919 a class composed of superintendents and managers from eight different factories. The group met six times, and as a result of their discussions, outlined a plan of foreman training which was started the following September by Professor Thomas Diamond, who was just beginning his work as a member of the industrial staff of the University.

It was found that the foremen needed instruction in a number of other questions besides those affecting the relations between employers and employees. Experience indicated that these questions may be classified under two general heads; first, those which are general, and which may be discussed by an itinerant teacher who need not necessarily be thoroughly familiar with each foreman's job; and second, those which are concerned with problems of specific interest to one foreman, one group or one trade, and which should be discussed by a teacher who is constantly in touch with the specific problems of the group he is dealing with.

The nature of the organization of a state university made it impracticable for the University of Michigan to station a representative in each community where work might be done for the purpose of studying and dealing with the specific problems of each locality. Consequently, Professor Thomas Diamond was assigned the task of leading the conferences on the questions included in the first group mentioned above, in various cities of the State, which included Grand Rapids, Muskegon, Holland, Jackson, Battle Creek,

Saginaw, Bay City, and later Lansing and Detroit. Foreman training classes in these cities were conducted in industrial plants or at some central point to which foremen came from different plants. This work was carried on for two years, 1919-1921. Its value was so evident that some of the manufacturers are still continuing the work in their own factories. In addition to this, a group of manufacturers in Grand Rapids presented a rather imperative request to the board of education of that city for a permanent full-time instructor who could continue the work and extend it into the second field, which entailed a more detailed study of the specific problems of their factories. In response to this request the board of education secured Mr. Arthur F. Dodge, from the United States Rubber Company to carry on this work. The city thus took over as a trade extension course work started by the Vocational Education Department of the University.

The more recent development in the training of foremen by this department of the University has been that of training foremen to become conference leaders in order that they may bring about the analysis of the job, both specific and general, in conference with their men. Nearly every year some of this work has been done by Professor Diamond.

Correspondence Work. Upon the introduction of Smith-Hughes classes in Michigan many teachers appointed to carry on the work needed to meet the requirements set up by the State Board of Control for Vocational Education. While the extension courses offered in many centers in the state provided opportunities for teachers in the principal cities, these courses failed to reach those in the smaller towns and cities. Therefore, in order to make teacher training help available for such teachers, a correspondence course was prepared in 1923 and was offered free to teachers. This course was of an introductory character and was completed by a number of teachers. However, in course of time such teachers as continued in the work became qualified under the State Plan and the demand for correspondence work disappeared. In 1936 the qualifications were made more rigid and extensive and as a consequence the Department arranged to offer a revised correspondence course.

At different times the Department of Vocational Education has given advisory assistance to schools and other institutions of a public character in setting up or improving vocational education programs. The State Industrial

School for Boys in Lansing, the State Training School at Lapeer, The Wayne County Training School, at Northville and the Michigan State Reformatory at Ionia are among the institutions thus aided. This help and the subsequent assistance to teachers in the selection and arrangement of teaching material is a typical service of the Department.

Service to C.C.C. Camps. Shortly after the establishment of the C.C.C. camps in Michigan, educational advisers were appointed to most camps. Many of these advisers had little or no experience in the type of educational project facing them. Several of these advisers appealed to the University for such assistance as the University might see fit to render. The Vocational Education Department responded by delegating Professor Thomas Diamond and F. W. Dalton to visit such camps as were possible in the time available and render such help as they could in the planning and arranging of a vocational and educational program to fit the needs of the boys in the camps. Sufficient interest was aroused in the problem facing the advisers, that frequent district conferences were ordered by the Corps Area adviser for the purpose of helping the camp educational advisers.

Conference Leader Training in Retail Selling. Department store salesmanship and general retail selling is a vocation which is becoming increasingly exacting in its requirements of selling skill, knowledge of merchandise and the ability to analyze and solve customer problems. One of the most fertile fields for making progress in methods of solving customer problems is to be found in the interchange of experience among salespeople.

During the years 1933-35 four groups of salespeople gathered, two in Lansing and two in Sparta under the direction of F. W. Dalton from the Department of Vocational Education for the purpose of studying sales problems, organizing the experiences of the group into possible solutions, and developing conference leaders. During 1936 the groups have met under the conference leaders developed during the previous year.

Conferences of Fire Officers. The State Board for Vocational Education in Cooperation with a committee from groups interested in fire fighting has been responsible for conferences for the officers of fire departments in several

cities in the state. These conferences were held in the metropolitan area of Detroit, Lansing, Kalamazoo, Grand Rapids, and Battle Creek. Eight or more meetings were held in each place, each meeting lasting five hours in all with a forenoon and afternoon session. The groups attending varied in size from twelve to eighty-five.

The purpose of the meetings was to emphasize the need for organization in the training of fire fighters, to draw upon the experience of those attending for material to be used in a training program, and to train officers to become instructors in the job of fire fighting.

A report made up from notes taken during the discussions at the first series of conferences was mimeographed. This compilation served as an aid in later conferences with fire officers and in the training of firemen. Some of the material prepared by these groups served also as a pattern for fire departments to follow in the development of the many lesson sheets needed. It was considered desirable also to analyze the entire problem of fire fighting and divide it into units and subdivisions. Since the compilation of the material from the first series of meetings this has been done.

The material thus brought together by Professor Thomas Diamond and F. W. Dalton of the Vocational Education Department of the University of Michigan has been published by the Department as a bulletin of 165 pages under the title *Firefighters' Manual*. This bulletin has been in demand from all parts of the United States and from foreign countries.

The State Board of Control for Vocational Education authorizes the teacher training institutions to make vocational education surveys. The Vocational Education Department of the University of Michigan has made many such surveys; among the cities included in the surveys are Flint, Jackson, Grand Rapids, Kalamazoo, Battle Creek and Detroit.

In addition to such surveys the personnel of the department has supervised and published several studies of a survey type.

- I. Occupations of Junior Workers in Detroit, Alexander C. Crockett and Jennie M. Clow, June, 1923.
- II. A Study of the Occupations of 207 Subnormal Girls after Leaving School, Mary S. Carpenter, 1925.

- III. A Study of the Teachers of Industrial Arts and Industrial Education in the State of Michigan, Thomas Diamond, June, 1927.
- IV. A Study of the Needs and Opportunities for Vocational Training and Guidance at the Michigan State Public School for Dependent Children, Ben C. Fairman, July, 1932.
- V. Resume of the Activities of the Michigan Industrial Education Society, June, 1933.
- VI. A Survey of the Part-time Continuation Schools in Four Michigan Cities, F. W. Dalton, May, 1933.
- VII. A Study of the Instructional Material Used in the Part-time Continuation Schools of Bay City, Flint and Pontiac, Elizabeth Ferguson, June, 1933.
- VIII. A Vocational Follow-up of Postgraduates and Regular Commercial Graduates of the Detroit High School of Commerce, Lyda E. McHenry, June, 1935.

GRADUATE WORK

A large number of graduate students have passed through the department in the last seventeen years. Since 1928 each graduate has been required to write a thesis. These studies have required considerable research which was done under the direction and supervision of the department personnel. Since 1930 and including 1936, 78 theses have received the supervision and direction of members of the department. Many of these studies are concerned with problems of industrial education. A few have been printed and made available for those who may desire them. Some of the studies more directly concerned with industrial and vocational education are listed below.

Year	Author	Title
1930	Freeman, Z. B.	Correlations between the Academic and Shop Records of 536 Boys in Henry Ford Trade School
1932	Burton, Stanton	The Effect of Participation in High School Extra-curricular Activities on Choice of a Vocation

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| Cline, Doris A. | A Study of Development of Minimum Standards for the Household Employees in Detroit |
| Moore, Wm. M. | The Minimum Essentials of Principles and Skills to be Taught in Junior High School Printing |
| Roney, Alta M. | A Study of the Educational and Occupational Backgrounds of 404 Negro Employees |
| Schwartzler, Anna | Survey of Boys of the Unit Trade and Cooperate Department of the Toledo Vocational School |
| Moore, Jewell, E. | Predicting School Success in Trade Subjects by the Use of Two Mechanical Aptitude Tests |
| Reeves, George | A Study of the Relation of Student Choices and School Preparation to Occupational Opportunities for Negroes in Alabama |
| 1933 Dalton, F. W. | Survey of the Continuation Schools in Four Michigan Cities |
| Ferguson, Elizabeth* | A Study of the Instructional Material Used in the Part-time Continuation Schools of Bay City, Flint, and Pontiac |
| Cole, Isa M. | Types of Occupational Opportunities for Boys and Girls Between the Ages of 14 and 17, Inclusive, in the City of Syracuse, New York, and the Value of these Occupations for Vocational Advancement |
| Hoffer, Milton | The Status of Public Evening Schools in the State of Michigan |
| Musser, Lawrence | Vocational Guidance and Vocational Education for Crippled Children |

	Rose, Norman L.	A Study of Vocational and Educational Guidance Needs of Men in Evening High Schools
1934	Fultz, Everett L.	General Intelligence and Mechanical Aptitude Scores of 102 ninth-grade Boys in Relation to Vocational Guidance
	McHenry, Lyda E.*	A Vocational Follow-up of Post-Graduate and Regular Commercial Graduates of the Detroit High School of Commerce
	Garrity, Thomas	A Study of the Smith-Hughes Graduates in the Junior High Schools of a Metropolitan City
1935	Wooden, Ethel A.*	The Development of Social Intelligence through Part-time Education
	Mumbrue, Harold	The Use of Precision Instruments in the Machinist Trades
	Radford, Stanley	A Survey of Trade Drafting Curricula and Classroom Methods in Representative Smith-Hughes Trade and Vocational Schools of the United States
	Voelker, Paul	The Value of a Battery of Vocational tests in Prognosticating Scholastic Success in a Trade School
	Farkas, Harry	Personality Traits Desired by Employers in Workers under 25 Years of Age
	Kopplin, Harry	The Place of Guidance in Solving the Delinquency Problem in the City of Jackson, Michigan

NEWS BULLETIN

Very soon after the introduction of vocational education in Michigan under the state plan a feeling arose among those responsible for such education that there was

*Printed.

need for some sort of publication to bring the workers in the field into closer touch with one another. Therefore, in December, 1922, the first issue of the Michigan Vocational News Bulletin appeared, published by the University of Michigan Vocational Education Department in cooperation with the Department of Public Instruction. Professor Thomas Diamond was its editor from the beginning until December, 1936 when Dr. Myers took over the responsibilities in order that Professor Diamond might have more time for work out in the state.

The News Bulletin has attempted to bring to the attention of teachers, directors, and others interested in vocational and part-time schools information concerning some of the best things going on in the fields of the work; to acquaint them with the vocational activities of the University and the Department of Public Instruction; and to provide a convenient medium for the exchange of views and experiences that seemed likely to be helpful.

For fourteen years the News Bulletin has been published every two months during the school year, beginning with October. It has been distributed free. Its value to readers has been dependent upon their cooperation in contributing material of interest to others, and in suggesting means by which its helpfulness could be increased. On May 28, 1928 it was adopted as the official organ of the Michigan Industrial Education Society.

PLAN FOR VOCATIONAL TRADE AND INDUSTRIAL TEACHER TRAINING IN MICHIGAN WHICH BECAME EFFECTIVE JULY 1, 1936

From 1917 to 1936 the administration of the teacher-training department in the University of Michigan rested with the head of that department, functioning as a member of the faculty of the University.

In 1936, as a result of a survey of vocational teacher-training in Michigan, made during 1935, by a committee from the United States Office of Education, several changes were made. Such changes had to do with the courses offered in the department; personnel of classes, qualifications of teacher-trainers, etc. A perusal of the courses since the introduction of industrial education at the University as outlined on pages 166-68 will indicate the nature of the course changes. The plan which became effective July 1, 1936 is set forth to show what work is to be carried on by the teacher training institutions, personnel of

classes, qualifications of teachers, and other approved activities.

THE MICHIGAN STATE PLANNING COMMITTEE FOR TRADE AND INDUSTRIAL EDUCATION

This committee was authorized in 1935 by Dr. Eugene B. Elliott, State Superintendent of Public Instruction and Executive Officer of the State Board of Control for Vocational Education, upon the recommendation of the State Director of Vocational Education. The personnel of the committee who accepted the appointments received the approval of their respective institutions.

The committee will act in an advisory capacity to the State Supervisor of Trade and Industrial Education. Some of the responsibilities delegated to it are:

1. To assist in the promotion of vocational trade and industrial education in Michigan.
2. To raise the standards of trade and industrial education in the State.
3. To recommend the preparation of materials, bulletins, or other teaching aids which will be of benefit to the teachers of trade and industrial education subjects.
4. To validate such materials.
5. To assign research problems to persons or committees.
6. To recommend standards of certification of teachers of trade and industrial education subjects and assist with problems of teacher training.
7. To recommend courses of study, text material, and instruction material to be used in Michigan schools.
8. To assist with the formulation of policies affecting trade and industrial education.
9. To assist in the development of apprentice training.
10. To assist in the organization and development of such youth organizations as the Future Craftsmen of America.

It will be noted that one of the purposes of this committee has to do with teacher training problems. The committee acting in an advisory capacity to the State Board of Control for Vocational Education has set forth a plan for vocational trade and industrial teacher-training in

Michigan, which has been approved by the State Board. This plan states that the State Board will, upon approval of budgets submitted by approved teacher training institutions, set aside a fund sufficient to reimburse the teacher training institutions for all approved work shown on the budget. All institutions approved by the State Board for teacher-training must follow the plan below to enable properly qualified persons to meet the requirements for certification and to make the services of members of the teacher-training staff available for such duties as may be assigned by the state supervisor of industrial education and which come within the provisions of the State Plan for Vocational Education. All of the teacher training work carried on in trade and industrial education will be under the direct supervision of the state supervisor.

I. Work to be offered and approved for reimbursement.

1. Courses to meet the needs of industrial teachers studying in residence.

Some or all of the required courses as indicated in the plan for certification of teachers may be offered in residence during the regular and summer sessions. Such courses offered will be open only to properly qualified persons as defined under "Personnel of Classes," paragraph II-A. Such classes will be organized only when six or more qualified persons are enrolled.

One course in principles or philosophy of vocational education and guidance may be offered during the regular and summer session provided the enrollment is restricted to superintendents, principals, academic teachers and vocational teachers.

2. Courses to meet the needs of industrial teachers in industrial centers.
 - a. Some or all of the required courses will be offered as extension courses in industrial centers. These will be open only to properly qualified persons as defined under "Personnel of Classes" in paragraph II-A. Such courses will be offered only when six or more qualified persons are enrolled.
3. Instruction to meet the needs of industrial teachers in smaller communities.
 - a. When there is not a sufficient number of qualified

persons to warrant the organization of a class, a member of the staff will be assigned as a sponsor to one or more individuals and will render assistance to them by helping them to plan their courses of study, and other instructional material and by rendering such additional assistance as may be desired. When such persons have, in the judgment of the sponsor completed a sufficient amount of work and are otherwise qualified to warrant advancement to a higher rating, the sponsor shall notify the State Supervisor of this fact. No teacher may, by this method, be advanced farther than a "C" rating unless he has received a "C" rating prior to July 1, 1936 in which case he may be advanced to a "B" rating on completion of a satisfactory amount of work. Teachers with a "B" rating may complete the requirements for an "A" rating by this method.

4. Instruction to meet the needs of foremen, supervisors, and conference leaders of various groups such as industrial workers, firemen, and other groups with a common interest.

- a. Foremanship conferences.

Teacher trainers qualified as foremanship conference leaders will, with the approval of the State Supervisor, organize and conduct conferences for foremen and supervisors.

- b. Training conference leaders.

Teacher trainers qualified to train conference leaders will, with the approval of the state supervisor, organize and conduct conferences to train conference leaders.

II. Personnel of Classes.

- A. Personnel of teacher training classes reimbursed from federal and state funds.

1. Each teacher training class to be eligible for reimbursement must have a membership with a minimum of 75 per cent of its enrollment composed of bona fide trade and industrial teachers who are actually engaged in teaching day, evening, or part-time classes which meet the requirements of the State Plan for Vocational Education. The balance of the

class membership may be composed of a maximum of 25 per cent of persons who meet the qualification requirements of the State Plan and are preparing to teach day, evening, or part-time classes.

2. When persons other than employed industrial teachers are enrolled, the qualifications of said persons must be submitted to the State Supervisor for approval to determine their eligibility for class membership.
3. The class in principles or philosophy of vocational education and guidance may be offered to superintendents, principals, and academic teachers, as well as to industrial teachers.

B. Foremanship Conferences.

Classes for foremanship conference groups will be composed of foremen and supervisors in Industrial plants and other business organizations where foremen and supervisors are responsible for training workers.

C. Classes for Training Conference Leaders.

Classes for training conference leaders will be composed of foremen or supervisors who wish to take such training to enable them to conduct conferences with workers or foremen in their own organizations.

D. Teacher Training Class Reports.

Teacher training departments must submit a report for each teacher training class or conference group for which reimbursement is requested. This report form, V.E. 5-B, is furnished by the State Board of Control for Vocational Education.

III. Other Activities

A. Surveys.

Members of the teaching training staff, with the approval of the state supervisor, will make surveys of committees with the view to determining the most effective form of industrial education programs to be organized.

B. Organization of Programs and Classes.

Members of the teacher training staff, with the approval of the State Supervisor, will organize

industrial education programs, classes and conference groups in communities where a service can be rendered.

C. Development and Preparation of Instructional Material.

Members of the teacher training staff, with the approval of the state supervisor, may devote time to the development and preparation of instructional material for use in rendering better service to the teachers and the schools in carrying out the State Plan for Vocational Education. This type of service will include special bulletins, courses of study, and other material helpful for the training of industrial teachers, coordinators, and local supervisors.

D. Work Schedules.

A work schedule for teacher trainers and other workers in the teacher training department must be submitted at the beginning and end of each semester. Work schedules for teacher trainers and clerical workers must be submitted with the budget on form V.E. 5-A.

E. Budgets.

The teacher training department must submit a budget by June 1, of each year to the state director of vocational education showing the amount of money to be spent for the following year beginning July 1. This budget shall include the names and salaries of teacher trainers, clerical help, travel, communication, printing, and supplies. The budget shall be submitted on form V.E. No. 5, Revised.

IV. Qualifications of Teacher Trainers.

All teacher trainers shall have the following minimum qualifications and be approved by the State Board of Control for Vocational Education before being employed.

A. Trade Experience.

At least three years of practical industrial experience or contact to insure an understanding of the problems of the workers and of industry. For the additional qualification of foremanship conference leaders, the teacher trainer must have at least two years' experience as a foreman in industry.

B. General Education.

The teacher trainer shall have graduated from an institution of college or university grade and possess an undergraduate degree or some other satisfactory combination of practical experience and training.

C. Teaching Experience.

At least two years of successful experience as a teacher of approved trade preparatory, trade extension, or continuation classes which meet the standards of the State Plan.

D. Supervisory Experience.

At least three years of experience in responsible administrative or supervisory capacity in the field of trade and industrial education of vocational grade.

E. Professional Education.

The equivalent of thirty semester hours or 540 clock hours in education subjects including such subjects as:

1. Philosophy of Vocational Education.
2. Supervision and Administration of Trade and Industrial Schools.
3. Making and Utilizing Job Analyses for Training Trade Teachers and Organization of Content for Training Courses.
4. Methods of Training Trade Teachers.
5. Vocational Guidance.

V. Teacher training for coordinators, supervisors, and directors of vocational industrial education.

Classes organized for the training of coordinators, supervisors, and local directors may be reimbursable from federal and state funds when such classes meet the standards for the certification of vocational executives and where the membership of such classes meets the requirements as set up under "Personnel of Classes," paragraph II-A.

VI. Teacher Training Institutions Approved by the State Board.

The University of Michigan is at present the approved teacher training institution for industrial teachers.

SUMMARY

Since the introduction of industrial education in Michigan in 1917, the problem of securing properly qualified teachers has been a difficult one. The State Board of Control for Vocational Education has set up regulations concerning the certification and professional improvement of teachers of trade and industrial subjects. The University of Michigan is the institution named to carry on the work of training teachers of industrial education.

The original requirements for teachers of industrial subjects have been changed from time to time to meet changing conditions. The courses offered by the Industrial Education Department in the University of Michigan have been consistent with the changes in the requirements set up by the State Board.

One of the important phases of the work of the Industrial Education Department has been the extension services rendered. The department has extended its professional services to the teachers in the field and on the job. Furthermore, the work carried on by members of the department in the field of training foremen, conferences for firemen, services to C.C.C. camps and conferences for retail salesmen has been looked upon by the federal and state authorities as being in keeping with the intent of one of the phases of the Smith-Hughes Law to promote industrial education.

The early efforts of the Industrial Education Department included correspondence work to aid in the solution of the problem of preparing teachers to meet the then new requirements. Later the department was called upon to offer graduate work in the field of industrial education with the result that many of the industrial education teachers in Michigan have done graduate work in this department.

July 1, 1936 marked the introduction of several changes in the offerings of the department, eligibility to pursue such offerings and qualifications of teachers of industrial education subjects. The change in eligibility to pursue courses offered by the department was due, presumably, to new interpretations of the federal law.

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Chapter VIII

STATE INDUSTRIAL EDUCATION SOCIETIES AND ORGANIZATIONS

It is the purpose of this chapter to discuss the organizations in Michigan which have had to do with the development of industrial education.

It is recognized that full justice cannot be done to the achievements of the large group of men and women who have taken an active part in the work of the organizations nor to the smaller groups who were responsible for guiding them through their beginning struggles. The first organization concerned with industrial education in Michigan was known as "The Michigan Society for Vocational Education."

MICHIGAN SOCIETY FOR VOCATIONAL EDUCATION

Previous to 1920 certain individuals from the fields of Agriculture, Home Making, and Industrial Education made a practice of holding a luncheon meeting in Ann Arbor at the time of the Schoolmasters' Club. At these meetings problems of common interest were discussed and they provided opportunities for the men and women in the different fields of Vocational Education to become better acquainted.

In 1922 this group decided to organize the Michigan Society for Vocational Education in order to fit into a new policy of the National Society for Vocational Education by which State Societies were to affiliate with the national organization.

The society had no written constitution until 1926. However, in April of that year the constitution was amended and printed. While the earlier constitution recognized as members only those who were also members of the schoolmasters' Club the printed version made membership in the two societies independent of one another.

Another constitutional change which was made at this time made possible the affiliation of the State Society with the national organization which, that same year, changed its name from the National Society for Vocational Education to the American Vocational Association.

As a result of the reorganization the Michigan Association of Teachers of Vocational Agriculture, the Michigan Home Economics Association, and the Michigan Industrial Education Society represent three strong groups of vocational teachers. The memberships of these three constitute the membership of the Michigan Society for Vocational Education and because of their affiliation of the state and national societies they have the privilege of becoming members of the American Vocational Association by paying a fee of one dollar per person. In 1935-36 there were 598 members who availed themselves of this opportunity. These were distributed as follows:

Trade and Industry	304
Home Economics	72
Agriculture	218
Rehabilitation	4

The original practice of having the meetings of the Michigan Society for Vocational Education at the time of the Schoolmasters' Club was changed and now the business of the Michigan Society for Vocational Education is transacted by delegates from each of the three state organizations who meet for a luncheon conference at the time of the Representative Assembly of the Michigan Education Association.

At this conference representatives from the fields of agriculture, home economics, and trade and industry meet for the purpose of electing a president and vice president and transacting such other business as appeared. The secretary is elected for a term of three years and Mr. K. G. Smith has been secretary since the society was organized. The officers of the society for this year, 1936 are: Arthur Reagh, president; Ruth Ann Hood, vice president; K. G. Smith, secretary.

MICHIGAN INDUSTRIAL EDUCATION SOCIETY

It has been stated that the Michigan Society for Vocational Education is made up of three organizations. In keeping with the limits of this dissertation particular attention is drawn to the one of these with which we are immediately concerned, the Michigan Industrial Education Society.

The first conference on industrial education was held during the annual meeting of the Michigan State Teachers' Association, October 26 and 27, 1920 at the Pantlind

Hotel, Grand Rapids. At this conference, Dr. George E. Myers, Professor Walter French of Michigan Agricultural College, Mr. K. G. Smith, and a large number of superintendents, principals, directors, supervisors, and teachers were present.

The purpose of the meeting was primarily to explain the functioning of the Michigan Vocational Education laws, particularly the new part-time law, which went into effect on September 1, 1920. A somewhat lengthy discussion brought out the fact that no well-defined objectives had been set up in the fields of manual arts, industrial, and part-time education. Furthermore, no definite course outlines were available. In order that progress might be made in defining objectives and formulating courses of study the chairman, Mr. George Frazee of Grand Rapids, appointed a committee to set up objectives and to plan courses. This committee consisted of:

Earl Bedell, Detroit--Chairman
H. Hollenbach, Saginaw
G. G. Price, Battle Creek
Frank H. McCrea, Muskegon
A. R. Mason, Jackson

The committee first set up a series of objectives in manual arts and then devoted its attention to the outlining of definite courses of study. The plan followed was to ask an individual or group of individuals to outline a course. This course was then submitted by the author or authors to the committee for criticism and suggestion. The State Department of Public Instruction published the course in final form. The following courses were approved by this committee and published:

Household Mechanics for Junior High Schools and Part-time Schools, by Earl Bedell and T. H. Trybom, 1923.
Building Construction, by M. S. Grant, 1922.
Electrical Application in the Home, by George Willoughby, 1922.
Elementary Wood Work, by L. R. Abbott, C. C. Frase, P. S. Hawkins, F. L. Johnson, W. Hanson, L. F. Hutt, W. R. Pease, Walter Scharmack, 1924 (revised 1927).
Elementary Auto-mechanics, by R. T. Guyer and George R. Corell, 1925.
Elementary Mechanical Drawing, by E. A. Ferns, 1926.

This central committee reported from time to time at the industrial education conference held in conjunction with the Michigan Schoolmasters' Club.

With the immediate objectives achieved the committee at its meeting in 1926 saw before it a much larger task and felt that in order to carry on the work, a state-wide organization was necessary. A meeting of some twenty-five representative teachers was called at Ann Arbor by K. G. Smith in the spring of 1927. This group favored a state organization of industrial teachers, and recommended that the chairman of the industrial education section of the Schoolmasters' Club appoint a committee to formulate and perfect plans for a state organization. This recommendation was submitted to the industrial education section then in session and was unanimously adopted. The committee was appointed with Harold VanWestrienen of Hamtramck as chairman. This committee met in Lansing in May, 1927 and again in September, 1927 and finally perfected a plan for the state organization. The objectives of this organization were stated as follows:

1. To provide a wide acquaintance and contact for teachers throughout the state.
2. To provide speakers of prominence and ability from outside the state for inspiration and information.
3. To provide for individual subject conferences and round tables.
4. To set up definite objectives for manual arts and industrial education.
5. To recommend desirable standard practices in instruction and administration.
6. To improve instruction by having a large number of committees at work under scientific direction.
7. To provide for general dissemination of knowledge of manual arts and industrial education among superintendents and principals.
8. To stand ready to support national and state agencies representing this field of education.

A tentative constitution was also prepared and submitted to a large number of teachers and directors before the annual spring meeting in 1928.

The minutes of this meeting marked the beginning of the state-wide organization for manual arts and industrial education as follows:

Minutes of the Organization Meeting of the Michigan Society for Manual Arts and Industrial Education Held at 2:30 P.M., Friday, April 27, 1928, in the Auditorium of the University High School, Ann Arbor, Michigan.

The manual arts and industrial education section of the Michigan Society for Vocational Education met in the auditorium of the University High School, Friday, April 27, at 2:30 P.M. The chairman of the section, Harold VanWestrienen, presided. This meeting constituted the first annual convention of the society.

At this meeting the constitution was adopted and the following officers were elected:

President, Harold VanWestrienen

Vice-President, G. G. Price

Secretary-Treasurer, Earl L. Bedell

At a meeting held May 28, 1928 it was decided to hold the second annual convention in Lansing, Michigan. The Vocational News Bulletin was adopted as the official organ of the society. At this meeting it was decided among other things to appoint a chairman of research in each of the following fields of activities:

1. Auto Mechanics
2. Aviation
3. Building Trades
4. Drawing and Electricity
5. Elementary Bench Work in Metal and Farm Mechanics
6. General Continuation
7. Household Mechanics
8. Machine Shop and Forging
9. Pattern-making and Foundry
10. Printing
11. Related Trade Work
12. Woodwork
13. Room Layouts and Equipment
14. Relationships and Exchanges with Organizations Outside the State

The Work of the Research Committee and Research
Coordinating Committee

Research was particularly needed in determining the content of different courses, methods of class organization,

equipment and layouts. In a field as diversified as that of industrial education, the determination of what type of research should be undertaken and in what form the results should be published is a difficult matter. For this reason the Research Coordinating Committee, consisting of the chairman of the various research committees, meet from time to time with a member of the vocational education staff of the University of Michigan as adviser. Every research bulletin must have the approval of the Research Coordinating Committee before being printed as an official publication of the Michigan Industrial Education Society.

Each committee under the guidance of the coordinating committee makes a report to the society at its annual meeting. The following reports have been submitted and accepted up to October, 1936.

Committee Reports. The Committee on Aeronautics is actively engaged in a study of how the subject of aeronautics may be coordinated with regular high school subjects.

The Committee on General Shop and Household Mechanics made its report in September, 1932, in the form of an illustrated treatise on the objectives, organization and management of the general shop. This report was distributed in printed form at all district meetings of the Michigan Educational Association in the fall of 1932. Large numbers of copies of this report have been sold outside the state.

The Committee on Printing has made no formal report but the chairman, Ralph Polk, Cass Technical High School, Detroit has a considerable amount of instructional material available which may be had for the asking by teachers of printing.

The Research Committee on Mechanical Drawing since its organization has, through the cooperative efforts of the supervisors, instructors in teacher training institutions, and teachers of drawing in the schools of the state, set up general objectives in mechanical drawing both for junior high and for senior high schools.

A cooperative study also has been made of the content and practices which should be included in a junior high school drawing course.

An Analysis of Machine Drawing was made last year. The analysis was submitted to 180 directors, supervisors,

and instructors in teacher training colleges, in secondary schools, and to industrial draftsmen in the State of Michigan. One hundred twenty-five replies approving the statements with or without reservations were received. These replies were considered by the committee in formulating the statements as finally agreed upon.

This analysis is a statement of the requirements for entrance into the field of machine drafting, setting forth what a student should know and be able to do and the related technical and vocational information he should possess.

The General Objectives in Mechanical Drawing and An Analysis of Machine Drawing have been distributed generally to cooperating directors and supervisors and to teachers of drawing in the state.

The Committee on Guidance and Coordination has made a survey of vocational education opportunities below the college grade in Michigan. This includes both public and private schools as well as business firms having programs of employee training (or apprenticeship) leading to proficiency in a recognized occupation.

The Machine Shop Committee published in June, 1931, its report in the form of a two-year senior high school course.

The Committee on Layout and Equipment rendered assistance in designing layouts for the general shop and household mechanics bulletin. Blueprints of various shop layouts may be obtained from the chairman, G. G. Price, Director of Vocational Education, Battle Creek.

The Committee on Trade Education is now organized. It is making a study of the non-technical or academic subjects such as social science, economics, English, and history, which should be taught in a trade or technical course.

The Industrial Arts Committee for Rural Schools was the first committee to make a report. The personnel of the original committee was as follows:

- B. J. Ford, Chairman, Department of Public Instruction,
Lansing, Michigan
- M. J. Sherwood, Western State Teachers College,
Kalamazoo, Michigan
- O. W. Troutman, Central State Teachers College,
Mt. Pleasant, Michigan

H. D. Corbus, Western State Teachers College,
Kalamazoo, Michigan
Everett Bristo, Milford, Michigan

The above committee had already been working on the problem and had formulated a course of study in industrial arts to be used by rural and small high schools. This course was sent out and used during 1928-29. Criticisms and suggestions were received from teachers in the field. In 1930 a new committee was appointed which immediately undertook a revision of this course in the light of criticisms received. The personnel of this committee was as follows:

B. J. Ford, Chairman, Department of Public Instruction
Lansing
Carl Lindeman, Western State Teachers College,
Kalamazoo
O. W. Troutman, Central State Teachers College,
Mt. Pleasant
J. E. Soper, Okemos
Herbert Carter, Milford
W. D. Wallace, Nashville
K. G. Smith, Lansing

This revised course was finished and published in mimeographed form in the fall of 1930. It is now used in some eighty consolidated and rural agricultural schools as a basis for shop work.

In the year of 1934, the Woodwork Research Committee of the Michigan Industrial Education Society, in order to meet the desires of those interested in woods for such a list decided to expand and to revise a list of publications on woods compiled by Professor E. V. Jotter of the University of Michigan, who was at that time a member of the committee. Requests were sent to the available sources for lists of publications. From the lists obtained, the Committee compiled a "Bibliography of Publications on Wood," of 54 pages, containing a list of most of the available publications pertaining to wood. About five hundred copies of this bibliography were mimeographed and is distributed in the field to those interested.

Many people expressed the need of a smaller and more select list to supplement the larger bibliography. To meet this need, the committee in 1925, sent out a questionnaire to many teachers and directors of industrial education, requesting them to recommend publications which in

their opinion were best on each particular phase of woods. From these recommendations, a select list was compiled and called "A Supplementary Bulletin to the Bibliography of Publications On Woods." About four hundred copies of this supplement were mimeographed and distributed.

This year (1936) the committee decided to revise the "Supplementary Bulletin." The main headings in this supplement are divided into sub-topics of the most interest. Some of the best current books are added to the list. The name, author, publisher, price, and a description is included with each publication. All items possible are listed alphabetically.

The Committee, with John Dawe Jr., as chairman will report at the 1937 meeting on a reorganized and revamped course in Auto Mechanics. Considerable work has been done and the committee anticipates presenting a very creditable report.

The Public Relations Committee has made no final report during its existence and none seems to be forthcoming which the officers and organization regret, in view of the fact that it is obvious much work needs to be done in this field.

THE CONSTITUTION OF THE MICHIGAN INDUSTRIAL EDUCATION SOCIETY

The constitution as adopted at the Grand Rapids meeting in April, 1928 has been revised and changes made from time to time as occasion seemed to demand. None of these changes however were of great significance. The Constitution as it appeared in June 1936 may be found in the appendix.

A list of past presidents and the period during which they were active follows:

Harold VanWestrienen	1928-1929
George B. Frazee, Jr.	1929-1930
A. C. Tagg	1930-1931
Marshall L. Byrn	1931-1932
Earl L. Bedell	1932-1933
Frank H. McCrea	1933-1934
Harry Burnham	1934-1935
Deyo B. Fox	1935-1936

From time to time it has been customary to elect to Honorary Life Membership, some member of the organization who has rendered outstanding service to the organization. The following members have been so honored:

Earl L. Bedell
Dr. George E. Myers
Joseph D. Bicknell
K. G. Smith
John H. Trybom
Thomas Diamond

The officers of the organization, together with the immediate past president and the State Supervisor of Industrial Education, Exofficio, comprise the executive committee which conducts the business of the society.

Many important acts affecting the progress of industrial Education have been performed by this organizaion.

Planning Commission
of the
Michigan Industrial Education Society
June 1, 1934-April 1, 1936

One of the resolutions passed at the Battle Creek Convention of the Michigan Industrial Education Society in 1934 called for the appointment of a Planning Commission. The State Supervisor was appointed chairman and given power to appoint the members. The following persons were selected as members of the Commission:

E. C. Weaver, Western State Teachers College, Kalamazoo
James Voyce, Flint
Walter Thatcher, Dearborn
Archie Nevins, Kalamazoo
Frank Dalton, University of Michigan, Ann Arbor
Walter Terry, North Muskegon
Linus W. Heydon, Battle Creek

The duty of the Commission was to undertake a study of and formulate plans for the following activities:

1. To improve the present method of selecting Section Chairmen in the various districts.
2. To devise some means of making the organization of more help to Upper Peninsula members.
3. To consider the possibility and advantages of making our organization a department of the Michigan Educational Association.

4. To consider means of strengthening our Regional Section programs by an interchange of speakers from other regions.
5. To consider the possibility and manner of publication of a "News Letter" to supplement the Vocational Bulletin to be sent out from time to time to members only.
6. To consider the possibility of and manner of publication of a "Handbook" of the Michigan Industrial Education Society.
7. To consider the advisability of making a study of conditions in industrial education in the state.

The Commission has given careful consideration to each of the above points and has submitted the following report:

Point No. 1. A letter was sent to all chairmen, sub-chairmen, and advisers of manual arts and industrial education sections in June, 1934, emphasizing the necessity of electing professionally-minded men interested in the Michigan Industrial Education Society as section chairmen. This has brought good results and we now have a group of interested men composing the executive committee. Men from the Upper Peninsula of Michigan and from the northern part of the Southern Peninsula have attended committee meetings from time to time and the other members attend regularly. All are vitally interested in the progress of the society and are working hard to promote its welfare. The present method of selecting the members of the executive committee insures every region a chance to be represented and as long as due care is used in selecting these section chairmen, the Commission believes there will be no difficulty.

Point No. 2. Representatives of the society who were sent to the Upper Peninsula meeting in the fall of 1934, 1935 and 1936 were well received. Linus Heydon was appointed a special sub-committee of one to devise ways and means for further increasing the interest of Upper Peninsula men in the Michigan Industrial Education Society. Mr. Heydon wrote a most attractive letter to prominent men in the Upper Peninsula urging their support and attendance at our meeting and assuring them that representatives of our society would be present at their fall meeting. Results, in the form of memberships were not commensurate with the effort made and it is our belief that our best method of keeping our contact with the Upper Peninsula is to send

representatives of our society to their meeting rather than to depend very much on their attendance at the State Convention. The Commission believes, however, that the memberships could be obtained in greater numbers than in the past if an effort were made in that direction by the membership committee.

Point No. 3. The chairman has conferred with the officers of the Michigan Educational Association and found it unwise, for the present, to request that the society become a department of the Michigan Educational Association.

Point No. 4. A sub-committee composed of E. C. Weaver, Archie Nevins, and Walter Terry was appointed to devise ways and means of accomplishing this end. This sub-committee obtained and had printed a list of speakers and subjects which was sent to every chairman, sub-chairman, and adviser in the various regions. Speakers from outside the regions have not been called upon to any great extent. The Commission feels that it is a matter for the section chairmen to carry further if they desire to secure speakers from outside of their regions.

Point No. 5. The Commission considered this question carefully and decided that it would be unwise for the society to attempt to get out another publication. Better use should be made of the one now published. "The Vocational News Bulletin." In this connection the matter of purchasing an addressograph was referred to the Commission and after investigation, the purchase of this machine was recommended. It is now located in the secretary's office and is used by him in sending out items of interest to the members from time to time.

Point No. 6. The secretary compiled a handbook which has been distributed.

Point No. 7. Frank W. Dalton is writing a history of industrial education in Michigan at the present time. During 1935 the chairman of the Planning Commission in co-operation with Mr. Dorr Stack, then in charge of rural agricultural schools, designed a Progress Chart and made a survey of industrial arts in eighty-five rural agricultural schools. This survey was widely distributed.

General. The Commission took upon itself the problem of securing material for publication in the vocational News Bulletin. The chairman of the manual arts and industrial education section in each region has named a man who

will be responsible for articles and news items from his region.

The chairman of each section in the various districts is cooperating by giving a place on the program at the fall meetings. Other important resolutions have been passed from time to time affecting the policies of the organization. Two resolutions of this type were passed at an executive meeting in February 1936 and were essentially as follows:

1. The appointment by the Superintendent of Public Instruction of two State Committees, one in Industrial Arts and one in Trade and Industrial Education to aid the State Director of Vocational Education and the State Supervisor of Industrial Education in formulating state programs in these two fields.
2. That no research problem be undertaken by a research committee or results of such report published by the society without first receiving the approval of the chairman of the Research Coordinating Committee both on the project itself and results obtained.

SUMMARY

The Michigan Society for Vocational Education was founded in 1922 and marked the beginning of the organization of the forces to promote vocational education. The Michigan Industrial Education Society, one of the three organizations that make up the Michigan Society for Vocational Education had its background in a meeting held at a Michigan State Teachers' Association meeting held in Grand Rapids in October, 1920. But it was not until April, 1927 that a state wide organization was perfected.

As a result of the activities of the Michigan Industrial Education Society considerable research has been accomplished in the field of industrial education, which has been helpful to teachers in this field.

A planning Commission appointed by the Executive Committee of the Society studies and formulates plans for the activities of the society.

Officers and Members of the Executive Committee of the
Michigan Industrial Education Society by Years

Officers and Executive Committee	Place and Year	
	Lansing, 1929	Grand Rapids, 1930
President	Harold VanWestrienen	George B. Frazee
Vice-President	G. G. Price	A. C. Tagg
Sec'y Treasurer	Earl L. Bedell	Earl L. Bedell
District Chairman		
District 1	Carl E. Larlstrom	O. F. Carpenter
District 2	William Houston	Hilmer Olson
District 3	Leon J. Carr	T. L. Stanaway
District 4	Walter Hansen	A. H. Meyer
District 5	Albion S. Taylor	Victor C. Simons
District 6	Edwin Melin	M. J. Hoffer
District 7	R. A. Browning	A. J. Nelson
District 8	Howard Boakaloo	Will A. Anderson
Past President		H. VanWestrienen
Ex Officio		K. G. Smith

Officers
and
Executive
CommitteePlace and Year

	Detroit, 1931	Flint, 1932	Muskegon, 1933
Pres.	A. C. Tagg	Marshall Byrn	Earl L. Bedell
Vice-Pres.	L. R. Abbott	H. H. Harrison	Frank H. McCrea
Sec'y-Treas.	Earl L. Bedell	A. H. Meyer	Alfred H. Meyer
Dist. Chm.			
Dist. 1	O. F. Carpenter C. J. McCarthy	C. J. McCarthy C. S. Jones	C. S. Jones Andrew H. Althouse
Dist. 2	Hilmer Olson Leon L. Yeakey	Leon L. Yeakey Earl H. Kelsey	Earl H. Kelsey John Short
Dist. 3	T. L. Stanaway L. L. McNamara	L. L. McNamara Deyo B. Fox	Deyo B. Fox A. H. Sywassink
Dist. 4	A. H. Meyer Russell H. Welch	Russel H. Welch George Johnson	George Johnson Henry J. Douma
Dist. 5	Milton J. Hoffer T. A. Reloar	T. A. Treloar A. L. McLean	A. L. McLean T. A. Treloar
Dist. 6	Harold F. Mumbrue M. J. Myers	M. J. Myers H. F. Mumbrue	C. T. Newman Alvin Taylor
Dist. 7	A. J. Nelson Langan J. Foard	L. J. Foard Tom C. Davis	Tom C. Davis J. A. Halama
Dist. 8	W. A. Anderson Emery C. Smith	Emery C. Smith C. J. Klopfenstein	Carl V. Lindeman C. J. Klopfenstein
P.-Pres.	George Frazee	A. C. Tagg	Marshall Byrn
Ex Officio	K. G. Smith	K. G. Smith	K. G. Smith

Officers
and
Executive
Committee

Place and Year

	Battle Creek, 1934	Dearborn, 1935	Jackson, 1936
Pres.	J. H. McCrea	Harry Burnham	Deyo B. Fox
Vice-Pres.	Harry Burnham	Deyo B. Fox	Luther Hall
Sec'y-Treas.	Melvin Hall	Arthur L. Reagh	Arthur L. Reagh
Dist. Chm.			
Dist. 1	Andrew Althouse Oswold Ludwig	Oswold H. Ludwig Harvey Smith	Harvey Smith Thomas Garrity
Dist. 2	John Short E. A. Pulkiner	E. A. Pulkiner S. W. Burton	Stanley Radford T. Floyd Gibson
Dist. 3	A. H. Sywassink D. A. Finger	D. A. Finger Earl V. Mead	E. V. Mead J. Edward Soper
Dist. 4	Arthur LePeagle Henry J. Donna	Claude H. Bosworth Irving Haltforth	Claude Bosworth Irving Haltforth
Dist. 5	Gordon Tobraham	E. A. Rewalt Alfred Waters	Alfred Waters Leu McQueen
Dist. 6	Alvin Taylor E. C. Russell	E. A. Russell Edward Ferguson	C. J. Ferguson Harold Harboldt
Dist. 7	Tom C. Davis J. A. Halama	Herbert Helman Henry Nelson	Henry Nelson John Hakengos
Dist. 8	Carl Lindeman	E. W. Cutting E. C. Weaver	John S. Dentler E. C. Weaver
P.-Pres.	Earl Bedell	J. H. McCrea	Harry L. Burnham
Ex Officio	K. G. Smith	K. G. Smith	K. G. Smith

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Year Book. Michigan Industrial Education Society, 1936-37.

Chapter IX

VOCATIONAL EDUCATION IN MICHIGAN AS COMPARED WITH OTHER STATES

The statistics included in this chapter are presented in order to show the relationship between Michigan and other states in regard to certain aspects of vocational education. The data have been compiled from the reports of the State and Federal Boards for Vocational Education, and from reports issued by the State Superintendent of Public Instruction in Michigan.

No attempt will be made to discuss each individual table in detail although some comments will be made concerning certain items.

The tables deal with four aspects of relationship as follows:

1. Allotments of funds:

Table IV - Basic Annual Allotment to States under Permanent Appropriations of the Smith-Hughes Act

Table V - Allotment to the States and Territories of Appropriations by the George-Deen Act

2. Expenditures:

Table VI - Reimbursement of Salaries of Teachers in Trade and Industrial Evening Part-time and All-Day Schools by States

Table VII - Amount of Federal Funds (Smith-Hughes) Available in All-Day and Evening Schools in the States and Territories

Table VIII - Expenditure of Federal, State and Local Funds for Vocational Trade and Industrial Education Including Part-time General Continuation Schools, in the States and Territories

3. Teacher Training:

Table IX - Enrollments in Vocational Teacher-Training
Courses in Federally Aided Institutions by
States

ALLOTMENTS

The first allotment of funds for industrial education was made in 1917, when the Smith-Hughes Law was passed. As this money is allotted to the state on the basis of population the amounts granted changed after each census according to the changes that appeared in the population of the state. Table IV page 209 shows, by states the annual allotments made for various purposes in the fields of trade and industry and home economics as well as the specific allotments for teachers training for the period 1936 to 1941 inclusive.

It will be noted from this table that Michigan stands sixth among the states in regard to the amount received, both in the matter of salaries for teachers of trade, industry, and home economics, and the total allotment for trade and industrial education. This is in keeping with the position held by this state in the number of students, as indicated in Table IX, page 214.

The funds available under the Smith-Hughes Act were supplemented by additional federal funds when the George-Elleszy Act was passed in 1935. Michigan received a proportionate amount of these funds and ranked sixth in the amounts received.

The George Deen Act, latest act providing federal funds for vocational education does not become effective until July 1937. Under this act, Michigan will receive an amount exceeded only by four other states. The allotment of these funds is dependent upon their appropriations by Congress. In view of this it is possible only to present a provisional amount for the various states, as given in Table V, page 210.

EXPENDITURES

The amount of federal, state and local money spent on each phase of industrial education in Michigan and the position in this respect, held by Michigan in relation to other states, may be seen by reference to tables included in this section. While federal money is allotted on a

definite basis as stated before, local money is generally provided on the basis of need and availability; therefore, the provision of local funds for carrying on industrial education under the Smith-Hughes Act differs a great deal in different states. It may be noted from Tables VII and VIII, pages 212 and 213 respectively, that Michigan has maintained herself in this respect at a point consistent with her population and her enrollment in industrial classes, by being eighth in expenditures for trade and industrial schools or classes.

It may be noted from these figures that several states have provided much larger percentages of the total amount expended for industrial education than Michigan, among these are California, New York, Pennsylvania, Wisconsin, and Massachusetts. The data also indicate that in the period of seventeen years federal expenditures increased over ten times in the United States. While state and local funds have fluctuated in different states, Michigan has maintained a steady increase so that the gains in state and local funds are consistent with the gains made nationally.

ENROLLMENT

According to the data presented in the Digest of Annual Reports by the Office of Education during the comparatively short time (18 years) that the Smith-Hughes Law has been in effect, considerable growth in enrollment has taken place. In 1918, the total enrollment in trade and industrial schools or classes was 117,934. In 1935 that enrollment had increased to 503,865. Steady increases were recorded from 1917 to the year following the depression, and a decrease since that time up to 1935 when encouraging increases exist in all types of classes except general continuation. The decrease in continuation school enrollment has been consistent during the last five years. In 1930, continuation school enrollment in federally aided classes reached its peak at 334,549 in the United States. During the five-year period ending 1935, enrollment decreased to 144,901, a drop from 54 per cent to 28 per cent of the total enrollment in trade and industrial classes in this period. This condition probably indicates that federal aid is now being applied to a more definite type of trade training. The opinion as expressed by state supervisors is, that many students that were formerly enrolled in continuation schools have now enrolled in trade preparatory all-day classes or in regular full-time schools.

In 1935 Michigan ranked fourth in number of male enrollees in the evening industrial schools but twenty-fifth in female enrollment. In trade extension classes, Michigan is fifth in male enrollees but fourth in female enrollment. In general continuation schools and classes, Michigan ranks eighth in male and twelfth in female numbers. In all-day trade classes, Michigan holds seventh place in number of male and eighth in number of female students. In the matter of total enrollments in trade and industrial classes it might be noted that Michigan is led by only five other states, California, New York, Ohio, Pennsylvania, and Wisconsin.

Trends in enrollment, in the several types of federally aided trade and industrial schools and classes correspond well with the trends in employment opportunities during the period covered by these tables. According¹ to the Federal Report of 1935, workers who have felt the need for additional information and skill have enrolled in evening classes in increased numbers during the year. Young persons who formerly were unable to find employment because adults were being given preference in every available vacancy, have during the past year, been employed in large numbers and consequently the part-time trade preparatory and trade extension enrollments have increased in considerable proportion.

Enrollments in all-day trade preparatory classes also have increased as young men and women have found it impossible to secure employment in the lower age ranges. Employment prospects have appeared brighter, it seems, to these young persons and consequently, rather than leave school and be unemployed, many of them have remained in school to take definite occupational training to supplement their general education.

It is believed that higher beginning employment age has been responsible for bringing into trade courses recently, large numbers of high school seniors and graduates and those who have had some college training. Lack of employment for younger persons has resulted in the lengthening of trade courses, which in turn has made possible more thorough training in preparatory courses.²

¹Annual Report for Vocational Education, 1935. State Board of Control for Vocational Education.

²Digest of Annual Reports of State Boards for Vocational Education. United States Department of Interior. Office of Education, 1935, p. 43.

Enrollments in state aided but not federally reimbursed trade and industrial schools and classes follow the trends displayed in the enrollments of federally aided schools and classes. The fact that only ten states make provisions for such schools of which Michigan is not one, makes it difficult to make very accurate comparisons. The sharp decreases in enrollment from 1928 to 1930 have been credited almost entirely to the economic depression.

INDUSTRIAL TEACHER TRAINING

The number of teachers in teach-training institutions federally reimbursed has been modified to some extent by the number of students enrolled in reimbursed classes.

According to a report by the Office of Education for the year 1933³ teacher-training classes were admitting, during the period of the present economic depression, persons of superior qualifications and unusual industrial experience. It is believed that the influx of this group tended to raise the standard of teachers of vocational classes, and stimulated unusual developments in the "in-service" training among teachers already employed.

Figures shown in Table IX, page 214, seem to indicate that Michigan has been relatively active in the training of teachers, if we accept the figures shown in the report of the State Supervisor of Industrial Education for 1935. Michigan stands eleventh among the thirty-eight states reporting.

SUMMARY

The first allotment of funds for industrial education was made in 1917 as a result of the passage of the Smith-Hughes Law. Since that time statistics indicate that the work has gone forward steadily. The figures also point out the fact that Michigan has made consistent progress in the various aspects of industrial education in comparison with other states.

However, it is worthy of note that several states including California, New York, Wisconsin, Massachusetts and Connecticut have exceeded the federal allotment in the expenditure of state and local funds towards the development

³Digest of State Reports for 1933, Federal Board of Vocational Education, p. 39.

of industrial education. The local and state expenditures made in each of these states, exceeds the federal allotment several times, while Michigan has slightly more than equaled the federal allotment.

Undoubtedly this factor plays an important part in the fact that the states mentioned lead Michigan in the development of the various aspects of industrial education. Nevertheless, when Michigan's rank in these various phases are averaged it is believed that she ranks relatively high considering per capita cost of this type of education.

REFERENCES

- Annual Report of the Federal Board for Vocational Education.
Superintendent of Documents. Washington, D.C. Reports
1-16 inclusive; 1917-1932.
- Digest of Annual Reports of State Boards of Vocational Education. Department of Interior, Office of Education,
1930. See also 1931, 1932, 1933, 1934, 1935.
- Ninety-Second Report of the Superintendent of Public Instruction of the State of Michigan, 1931-1933. See
also report for 1934-1935.
- Unpublished Enrollment Records of the Department of Industrial Education, University of Michigan.
- Unpublished report of the State Supervisor of Industrial Education, Lansing, Michigan, 1935-36.

Table IV

Basic Annual Allotment For Industrial Education to States
Receiving More Than \$10,000 Under the Permanent Appropri-
ations of the Smith-Hughes Act for the Period from
July 1, 1936 to June 30, 1941

Total	Allotment for Salaries of Teachers \$3,049,265.27	Allotment for Teacher Training \$1,000,000.00
State		
Alabama	32,611.15	21,639.44
Arkansas	16,776.23	15,164.85
California	182,301.17	46,425.18
Colorado	22,779.21	8,479.08
Connecticut	49,589.77	13,140.30
Florida	33,290.52	12,006.16
Georgia	39,236.98	23,784.03
Illinois	246,935.68	62,398.95
Indiana	78,689.02	26,482.55
Iowa	42,908.77	20,205.87
Kansas	31,978.49	15,381.69
Kentucky	35,010.22	21,380.55
Louisiana	36,522.14	17,185.58
Maine	14,087.15	6,520.85
Maryland	42,714.98	13,341.65
Massachusetts	167,878.22	34,750.82
MICHIGAN	144,684.11	39,597.65
Minnesota	55,103.85	20,966.48
Mississippi	14,847.09	16,455.12
Missouri	81,459.38	29,678.81
Nebraska	21,299.32	11,268.16
New Hampshire	11,965.26	3,804.89
New Jersey	146,312.71	33,047.63
New York	461,031.10	102,937.72
North Carolina	35,484.35	25,924.63
Ohio	197,495.50	54,352.74
Oklahoma	36,002.87	19,593.39
Oregon	21,458.77	7,799.49
Pennsylvania	286,273.09	78,759.45
Rhode Island	27,842.03	5,621.94
South Carolina	16,259.29	14,218.59
Tennessee	39,282.82	21,396.64
Texas	104,691.96	47,631.06
Utah	11,666.65	4,152.87
Virginia	34,419.18	19,804.46
Washington	38,757.07	12,784.52
West Virginia	21,535.80	14,140.41
Wisconsin	68,083.37	24,033.44

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Table V

Provisional Allotment to States and Territories of Appropriations Authorized by the George-Deen Act for the Further Development of Industrial Education and Amount of State and Local Money Required to Match the Federal Allotment.
By States and Territories for Each Fiscal Year during the Period from July 1, 1937 to June 30, 1942
(Returns on Population of April 1, 1930)

State or Territory	For Salaries and Necessary Travel Expenses of Teachers, Supervisors, and Directors					
	Allotment - Federal Money			State or Local Money Required to Match Federal Funds		
	Trade and Industry	Distributive Occupations	Training of Teachers, Directors, Supervisors	Trade and Industry	Distributive Occupations	Training of Teachers, Directors, Supervisors
Alabama	\$ 56,102.55	\$ 25,455.59	\$ 21,212.99	\$ 28,051.28	\$ 12,727.80	\$ 21,212.99
Arizona	20,000.00	10,000.00	10,000.00	10,000.00	5,000.00	10,000.00
Arkansas	31,575.27	17,839.19	14,886.00	15,787.64	8,919.60	14,866.24
California	217,230.18	54,612.33	45,510.28	108,615.09	27,306.17	45,519.28
Colorado	32,346.20	10,000.00	10,000.00	16,173.10	5,000.00	10,000.00
Connecticut	65,302.63	15,457.61	12,881.34	32,651.32	7,728.81	12,881.34
Delaware	20,000.00	10,000.00	10,000.00	10,000.00	5,000.00	10,000.00
Florida	51,087.54	14,123.46	11,769.55	25,543.77	7,071.73	11,769.55
Georgia	64,007.82	27,978.38	23,315.32	32,003.91	13,989.19	23,315.32
Idaho	20,000.00	10,000.00	10,000.00	10,000.00	5,000.00	10,000.00
Illinois	284,875.21	73,403.10	61,169.25	142,437.61	36,701.55	61,169.85
Indiana	104,195.67	31,152.79	25,960.66	52,097.84	15,576.40	25,960.66
Iowa	64,138.46	23,769.20	19,807.67	32,069.23	11,884.60	19,807.67
Kansas	50,424.82	18,094.28	15,078.56	25,212.41	9,047.14	15,078.56
Kentucky	61,777.11	25,151.05	20,959.21	30,888.36	12,575.53	20,959.21
Louisiana	54,599.69	20,216.27	16,846.90	27,299.85	10,108.14	16,846.90
Maine	26,910.41	10,000.00	10,000.00	13,455.21	5,000.00	10,000.00
Maryland	59,887.25	15,694.47	13,078.72	29,943.58	7,847.24	13,078.72
Massachusetts	177,262.19	40,879.17	34,065.98	88,631.10	20,439.59	34,065.98
MICHIGAN	174,408.54	46,580.76	38,817.30	87,204.27	23,290.38	38,817.30
Minnesota	71,680.72	24,663.95	20,553.29	35,840.36	12,331.98	20,553.29
Mississippi	27,793.20	19,333.48	16,111.23	13,896.60	9,666.74	16,111.23
Missouri	108,035.60	34,912.71	29,093.92	54,017.80	17,456.36	29,093.92
Montana	20,000.00	10,000.00	10,000.00	10,000.00	5,000.00	10,000.00
Nebraska	34,034.39	13,255.32	11,046.10	17,017.20	6,627.66	11,046.10
Nevada	20,000.00	10,000.00	10,000.00	10,000.00	5,000.00	10,000.00
New Hampshire	20,000.00	10,000.00	10,000.00	10,000.00	5,000.00	10,000.00
New Jersey	167,977.96	38,875.62	32,396.35	83,988.98	19,437.81	32,396.35
New Mexico	20,000.00	10,000.00	10,000.00	10,000.00	5,000.00	10,000.00
New York	509,837.35	121,090.94	100,909.11	254,918.68	60,545.47	100,909.11
North Carolina	67,460.22	30,496.48	25,413.73	33,730.11	25,413.73	15,248.24
North Dakota	20,000.00	10,000.00	10,000.00	10,000.00	5,000.00	10,000.00
Ohio	242,005.33	63,937.92	53,281.60	121,002.67	31,968.96	53,281.60
Oklahoma	58,937.77	23,048.71	19,207.26	29,468.89	11,524.39	19,207.26
Oregon	31,364.82	10,000.00	10,000.00	15,682.41	5,000.00	10,000.00
Pennsylvania	376,946.05	92,648.80	77,207.80	188,473.03	46,324.40	77,207.33
Rhode Island	28,826.01	10,000.00	10,000.00	14,413.01	5,000.00	10,000.00
South Carolina	35,324.52	16,726.05	13,938.38	17,662.26	8,363.03	13,938.38
South Dakota	20,000.00	10,000.00	10,000.00	10,000.00	5,000.00	10,000.00
Tennessee	60,189.32	25,169.97	20,974.97	30,094.66	12,584.99	20,974.97
Texas	149,170.94	56,030.86	46,692.39	74,585.47	28,015.43	46,692.39
Utah	20,000.00	10,000.00	10,000.00	10,000.00	5,000.00	10,000.00
Vermont	20,000.00	10,000.00	10,000.00	10,000.00	5,000.00	10,000.00
Virginia	63,195.99	23,297.00	19,414.17	31,598.00	11,648.50	19,414.17
Washington	54,070.10	15,039.09	12,532.58	27,035.05	7,519.55	12,532.58
West Virginia	54,990.79	16,634.09	13,861.74	27,495.40	8,317.05	13,861.74
Wisconsin	88,406.53	28,271.78	25,559.81	44,203.27	14,135.89	23,559.81
Wyoming	20,000.00	10,000.00	10,000.00	10,000.00	5,000.00	10,000.00
Alaska	20,000.00	10,000.00	10,000.00	10,000.00	5,000.00	10,000.00
D. of Columbia	20,896.47	10,000.00	10,000.00	10,448.23	5,000.00	10,000.00
Hawaii	20,000.00	10,000.00	10,000.00	10,000.00	5,000.00	10,000.00
Puerto Rico	22,351.26	14,851.68	12,376.40	11,175.63	7,425.84	12,376.40

Table VI

Reimbursement of Salaries of Teachers in Trade and Industrial Schools and Classes. Amount of Federal Money, Smith-Hughes and George-Elzey, Expended for Salaries of Teachers in Each Type of School in the States and Territories for the Year Ending June 30, 1935

State or Territory	Type of School or Class			
	Evening	Part-time		All-Day Trade
		Trade Extension	General Continuation	
Alabama	\$15,598.17	\$ 6,719.50	\$ 3,482.24	\$ 13,449.93
Arizona	4,115.00	1,755.00	-	3,437.12
Arkansas	178.00	3,224.37	5,004.36	8,357.28
California	9,639.66	33,683.68	13,468.03	87,340.00
Colorado	6,278.73	11,205.82	1,918.80	6,996.62
Connecticut	5,942.75	9,715.87	-	36,713.48
Delaware	2,005.00	4,974.75	1,363.30	4,656.75
Florida	4,173.98	6,242.86	18,931.26	8,722.44
Georgia	11,979.18	8,521.19	22,933.45	9,824.44
Idaho	1,464.75	5,867.89	305.10	1,349.42
Illinois	15,747.19	17,151.77	32,731.38	101,391.68
Indiana	2,137.00	16,969.50	21,625.35	48,558.36
Iowa	3,480.42	2,697.93	11,005.18	12,251.99
Kansas	3,969.50	1,611.68	-	6,439.00
Kentucky	1,409.40	2,830.20	-	21,466.19
Louisiana	2,065.71	8,656.09	-	24,850.00
Maine	2,436.52	7,260.50	-	3,974.71
Maryland	6,711.71	8,690.82	2,789.80	23,314.28
Massachusetts	5,664.80	9,293.41	46,422.92	116,211.47
MICHIGAN	20,964.00	53,530.00	19,890.00	61,184.00
Minnesota	480.00	4,276.29	20,959.48	47,507.82
Mississippi	749.88	6,600.15	11,424.90	1,522.84
Missouri	-	13,045.99	5,467.83	56,220.82
Montana	606.50	2,102.50	6,335.49	2,350.00
Nebraska	3,485.00	2,980.28	1,912.19	3,101.25
Nevada	3,454.00	1,062.00	-	3,917.80
New Hampshire	-	-	3,052.25	6,699.12
New Jersey	16,576.95	23,241.26	38,779.70	88,068.23
New Mexico	-	3,532.18	321.75	5,228.81
New York	53,344.65	-	196,636.60	327,393.26
North Carolina	11,985.75	3,767.00	12,341.62	4,850.68
North Dakota	-	5,545.49	-	4,776.89
Ohio	12,574.10	91,381.70	18,332.84	88,208.35
Oklahoma	5,806.43	3,967.27	4,099.69	16,422.97
Oregon	3,441.77	11,729.67	700.00	9,214.62
Pennsylvania	-	75,990.88	17,106.21	254,372.68
Rhode Island	2,011.12	17,821.60	-	15,296.06
South Carolina	10,530.00	-	8,541.31	4,946.67
South Dakota	768.50	543.16	-	2,498.12
Tennessee	5,467.91	2,442.30	19,576.89	13,517.07
Texas	15,289.85	32,166.90	18,041.63	55,963.21
Utah	2,323.00	-	11,376.82	633.83
Vermont	1,477.00	3,824.23	-	-
Virginia	5,113.76	19,385.86	5,774.62	13,236.03
Washington	7,078.96	1,052.10	11,124.99	16,281.19
West Virginia	10,502.42	4,719.40	-	8,578.33
Wisconsin	20,071.64	20,813.65	23,651.66	-
Wyoming	3,630.50	4,505.76	393.75	4,369.56
Hawaii	1,413.75	1,367.52	1,965.82	8,252.91
Puerto Rico	7,073.75	6,739.65	3,440.98	8,404.53

Table VII

Amount of Federal Funds (Smith-Hughes)* Available
for All-Day and Evening Schools
in the States and Territories
for the Year Ending June 30, 1935

	All-Day and Evening Schools	
	Maximum Amount Available	Amount Expended
Total	\$2,032,843.56	\$1,836,481.95
State or Territory		
Alabama	21,740.77	21,740.76
Arizona	6,666.67	4,710.87
Arkansas	11,184.15	8,823.62
California	121,534.11	121,480.00
Colorado	15,186.14	7,981.17
Connecticut	33,059.85	33,059.85
Delaware	6,666.67	4,254.25
Florida	22,193.68	10,916.30
Georgia	26,157.99	18,216.45
Idaho	6,666.67	3,251.25
Illinois	165,623.79	151,468.21
Indiana	52,459.35	50,239.84
Iowa	28,605.85	16,663.04
Kansas	21,318.99	10,408.50
Kentucky	23,340.15	19,598.46
Louisiana	24,348.09	24,348.09
Maine	9,391.43	7,914.73
Maryland	28,476.65	19,933.65
Massachusetts	111,918.81	109,710.15
MICHIGAN	96,456.07	90,734.70
Minnesota	36,735.90	36,735.85
Mississippi	9,898.06	1,198.00
Missouri	54,306.25	38,014.37
Montana	6,666.67	3,090.50
Nebraska	14,199.55	6,586.25
Nevada	6,666.67	5,434.00
New Hampshire	7,976.84	5,948.06
New Jersey	97,541.81	104,400.51
New Mexico	6,666.67	3,761.00
New York	307,354.07	307,354.07
North Carolina	23,656.23	17,164.55
North Dakota	6,666.67	4,307.97
Ohio	131,663.67	118,305.16
Oklahoma	24,001.91	21,896.27
Oregon	14,305.85	10,755.47
Pennsylvania	190,848.73	190,848.73
Rhode Island	18,561.35	17,307.18
South Carolina	10,839.53	10,707.98
South Dakota	6,666.67	5,266.62
Tennessee	26,188.55	16,808.28
Texas	69,794.64	66,022.00
Utah	7,777.77	3,263.00
Vermont	6,666.67	3,045.76
Virginia	22,946.12	22,940.42
Washington	25,838.05	24,905.04
West Virginia	14,357.20	9,684.65
Wisconsin	45,388.91	38,605.81
Wyoming	6,666.67	6,670.56
Hawaii	6,666.67	6,666.67
Puerto Rico	20,000.00	15,478.28

*In some cases George-Elzey funds increased the amounts shown above, as indicated in Table III.

Table VIII

Expenditure of Federal, State and Local Funds for Vocational Trade
and Industrial Education, Including Part-time General
Continuation Schools, in the States and
Territories for the Year Ending
June 30, 1935

State or Territory	Total Expenditure	Federal Money Spent	State and Local Money Spent	
			State	Local
Alabama	103,491.40	41,397.05	23,060.66	39,033.69
Arizona	23,740.00	9,307.12	6,537.88	7,985.00
Arkansas	33,528.16	16,764.01	4,034.40	12,729.75
California	710,198.90	144,631.37	144,631.37	411,936.83
Colorado	66,714.31	26,399.97	9,830.01	30,484.33
Connecticut	480,283.56	52,372.10	326,338.96	101,572.50
Delaware	30,745.76	13,000.00	2,000.00	15,745.76
Florida	88,974.48	39,090.54	12,220.76	37,663.54
Georgia	109,834.26	55,417.13	14,093.25	41,223.88
Idaho	17,974.35	8,987.16	6,095.87	2,891.32
Illinois	355,143.23	177,571.60		176,571.63
Indiana	306,088.53	89,290.21	20,266.50	197,531.82
Iowa	59,425.24	29,712.60	-	29,712.64
Kansas	41,721.96	12,020.18	9,134.57	20,567.21
Kentucky	69,502.48	25,705.79	-	43,796.69
Louisiana	71,143.60	35,571.80	1,212.50	34,359.30
Maine	27,343.48	13,671.73	2,593.41	11,078.34
Maryland	206,365.79	41,506.60	17,883.81	146,975.37
Massachusetts	1,514,043.19	177,602.60	668,720.29	668,720.30
MICHIGAN	411,474.39	158,832.00	79,916.00	171,726.39
Minnesota	173,452.80	72,223.59	15,107.85	85,747.20
Mississippi	67,113.96	21,872.77	20,635.84	24,605.35
Missouri	198,814.22	74,634.64	36,340.81	87,738.77
Montana	40,910.82	11,414.49	300.00	29,196.33
Nebraska	33,481.79	15,605.45	7,952.22	9,934.12
Nevada	16,867.60	8,433.80	2,155.43	6,278.37
New Hampshire	19,659.46	9,908.09	-	9,742.62
New Jersey	575,363.26	166,666.14	173,409.38	235,287.74
New Mexico	18,176.48	9,082.74	25.00	9,057.74
New York	3,320,010.27	589,909.81	1,018,710.90	1,711,389.56
North Carolina	65,810.35	32,871.55	8,614.20	24,325.15
North Dakota	20,644.76	10,322.38	9,580.29	825.00
Ohio	755,905.04	210,496.99	73,573.19	471,834.86
Oklahoma	72,168.82	36,084.41	2,117.00	33,966.91
Oregon	50,652.17	25,086.06	127.17	31,738.94
Pennsylvania	1,197,974.97	347,424.77	315,458.70	535,046.50
Rhode Island	85,478.94	35,128.78	840.66	49,509.50
South Carolina	56,542.54	25,188.76	22,973.78	15,462.74
South Dakota	8,419.56	4,209.78	400.00	12,911.72
Tennessee	83,532.25	41,154.17	16,301.27	26,076.81
Texas	247,322.84	121,561.59	57,163.95	69,687.30
Utah	37,996.10	14,333.65	2,150.00	21,512.45
Vermont	10,602.46	5,301.23	-	5,301.23
Virginia	151,794.03	42,510.27	20,908.52	87,375.24
Washington	71,274.51	35,737.24	-	35,737.27
West Virginia	51,893.97	24,468.89	4,761.13	22,663.95
Wisconsin	884,397.74	76,814.45	-	807,583.32
Wyoming	30,207.82	12,899.51	2,454.35	14,753.96
Hawaii	45,011.60	13,000.00	32,011.60	-
Puerto Rico	52,409.32	25,658.91	19,201.02	7,549.39

Table IX

State Enrollments in Vocational Teacher-Training Courses in
Federally Aided Institutions in the United States
and Territories for the Period
Ending June 30, 1935

State or Territory	Trade and Industrial Students	
	Male	Female
Alabama	221	20
Arizona	*	*
Arkansas	*	*
California	248	207
Colorado	372	22
Connecticut	*	*
Delaware	24	2
Florida	63	31
Georgia	129	14
Idaho	24	6
Illinois	190	160
Indiana	189	*
Iowa	331	33
Kansas	*	*
Kentucky	84	*
Louisiana	73	42
Maine	16	2
Maryland	*	*
Massachusetts	528	42
MICHIGAN	178**	124**
Minnesota	170	46
Mississippi	23	4
Missouri	133	7
Montana	*	*
Nebraska	74	19
Nevada	21	*
New Hampshire	16	*
New Jersey	272	60
New Mexico	*	*
New York	815	63
North Carolina	3	*
North Dakota	*	*
Ohio	882	41
Oklahoma	127	*
Oregon	57	*
Pennsylvania	639	118
Rhode Island	100	*
South Carolina	23	*
South Dakota	*	*
Tennessee	46	*
Texas	514	141
Utah	137	7
Vermont	5	1
Virginia	215	2
Washington	14	*
West Virginia	*	*
Wisconsin	76	*
Wyoming	5	*
Hawaii	23	8
Puerto Rico	18	8

*No reports.

**The Federal report states that there were 40 female and 61 male students, but according to the records of the Vocational Education Department of the University of Michigan, the figures are 178 and 124.

APPENDICES

MICHIGAN SOCIETY
for
VOCATIONAL EDUCATION

CONSTITUTION

(original)

April, 1926

NAME

The name of this organization shall be the Michigan Society for Vocational Education.

PURPOSE

The purpose of this society shall be:

1. To promote vocational education and to afford, to all those who are interested, opportunities for the presentation and discussion of various problems of vocational education.
2. To make available the results of experience and work accomplished in the various fields of vocational education both in this state and other states.
3. This society shall work in cooperation with other agencies for the advancement of vocational education in the state.

MEMBERSHIP

1. All persons interested in agricultural, home making, commercial, industrial, and manual arts education shall be eligible to membership.

2. A fee of one dollar (\$1) shall be paid by each member which shall entitle him to membership in the American Vocational Association.

ORGANIZATION

1. Officers: The officers of the Society shall be President, Secretary-Treasurer, and one Vice-President from

each division of the association. The President shall be elected by the Society at each annual meeting for a period of one year. The Secretary-Treasurer shall be elected for a term of three years. Each division at the annual meeting shall elect a president who shall be one of the Vice-Presidents of the Association.

2. Executive Committee: The executive committee shall be composed of the President-elect, the retiring President, the Secretary-Treasurer, and Vice-President.

DUTIES OF THE OFFICERS AND COMMITTEE

1. The President shall preside at all meetings of the Society and of the executive committee, and shall perform the duties usually devolving upon a presiding officer. In the absence of the President, a Vice-president shall preside and fulfill the duties of the President.

2. The Secretary-Treasurer:

a. Shall keep a full and accurate report of the proceedings of the general meeting of the Society and of all meetings of the executive committee. He shall conduct such other duties as the President and Executive committee shall assign.

b. Shall receive all membership dues and funds of the Society and shall disburse these funds only upon the receipt of a written order from the President. At the annual meeting of the Society he shall be required to make an itemized statement of all receipts and expenditures.

3. Duties of the Executive Committee:

The executive committee shall have in its charge the program for the annual meeting of the Society and shall shape and direct the general policies of the State Organization.

STANDING AND SPECIAL COMMITTEES

The executive committee shall appoint such committees as are necessary to carry on its work. An auditing committee shall be appointed annually by the President for the purpose of auditing the accounts of the Secretary-Treasurer at the direction of the Executive Committee and shall make a report at each annual meeting.

MEETINGS

1. The annual and special meetings of the Society shall be held as the Executive Committee shall decide.

2. Meetings of the Executive Committee:

The Executive Committee shall meet at such times and places as may be necessary to carry out effectively the purpose of the Society.

BY-LAWS

By-Laws not inconsistent with this constitution may be adopted by two-thirds vote of the members present at a regular meeting.

AMENDMENTS

This constitution may be altered or amended by two-thirds vote of the members present at a regular meeting.

MICHIGAN INDUSTRIAL EDUCATION SOCIETY
CONSTITUTION

1936

ARTICLE I

NAME

The name of this organization shall be the Michigan Industrial Education Society.

ARTICLE II

PURPOSE

The purpose of this society shall be:

1. To provide a wide acquaintance and contact for manual arts and industrial vocational teachers throughout the state.

2. To provide speakers of prominence and ability for inspiration and information.

3. To provide for individual subject conferences and round tables.

4. To set up definite objectives for manual arts and industrial vocational education.

5. To recommend desirable standard practices in instruction and administration.

6. To provide instruction by having a large number of committees at work under scientific direction.

7. To provide for the general dissemination of knowledge of our field among superintendents and principals.

8. To stand ready to support national and state agencies representing our field of education.

ARTICLE III

MEMBERSHIP

1. All persons interested in manual arts, industrial, vocational and part-time education shall be eligible to membership.

2. The payment of an annual fee of two dollars by any person classified as above shall entitle him to membership in this Society.

3. The payment of a fee of \$25.00 shall entitle any qualified person to a life membership in this Society.

4. The Honorary Members of this Society, approved by the Executive Committee, may be elected at any annual business meeting.

ARTICLE IV

ORGANIZATION

1. Officers: Article IV, of the constitution, on organization, shall be amended to read as follows: The officers of the Society shall be a president, a vice-president, a secretary treasurer, and an exhibits manager. The president shall be elected for a term of one year by the association at its annual meeting. The secretary-treasurer and the exhibits manager shall be elected for a term of three years by the Executive Committee. Their term shall be so staggered that both shall not expire at the same time.

2. Executive Committee: The Executive Committee shall be composed of the president, the retiring president, vice-president, the secretary-treasurer, the exhibits manager, and the chairmen and retiring chairmen of the manual arts and industrial education sections of each of the M.E.A. districts or some other member of each M.E.A. district may be chosen instead, at the discretion of the Executive Committee. The State Supervisor of Industrial Education shall be an ex-officio member of the Executive Committee.

ARTICLE V

Committees

A. There shall be the following standing committees.

1. Research Committees: Research chairman shall be appointed by the president to study phases of manual arts and industrial vocational education work selected by the Executive Committee. Each chairman may call on members of the Society for such assistance as he deems necessary.

2. Research Co-ordinating Committee: There shall be a Research Co-ordinating Committee composed of the

president, vice-president, secretary-treasurer chairman of each research committee, State Supervisor of Industrial Education and a member of the Department of Vocational Education at the University of Michigan. The latter member shall be appointed by the president to hold office for one year.

3. Editorial Committee: There shall be an editorial committee of three members, with a term of service of three years, one member to be appointed by the president each year. The senior member shall act as chairman. The first appointments are to be for periods of one, two and three years.

B. There shall be the following special committees:

1. Auditing Committee: At the opening meeting of the annual convention, the president shall appoint an auditing committee of three members.

2. Convention Committee: Within thirty days after the annual convention the president shall appoint a convention committee for the ensuing year. This committee is to consist of the president, vice-president, secretary-treasurer, and two other members, one of whom is to be a resident of the convention city and act as chairman of a local arrangements committee. The vice-president shall be chairman of the convention committee.

3. Resolutions Committee: At the first meeting of the annual convention the president shall appoint a Resolutions Committee of three members.

4. Nominating Committee: At the first meeting of the annual convention the president shall announce a Nominating Committee. This committee shall be composed of five members no two of whom shall be from the same M.E.A. district.

ARTICLE VI

MEETINGS

1. The society shall meet at least once each year and at such times and places as the Executive Committee shall decide. Special meetings may be called by the president with consent of the Executive Committee.

2. The Executive Committee shall meet at the call of the president as often as may be necessary to carry out

effectively the purposes of the society. The time and place of each meeting is to be specified by the president.

ARTICLE VII

QUORUM

1. Fifteen members shall constitute a quorum for the transaction of business at the annual business meeting of the society, and at any special meeting called.

2. Six members shall constitute a quorum for the transaction of business at any meeting of the Executive Committee.

ARTICLE VIII

BY-LAWS AND AMENDMENTS

1. Additions or amendments to the constitution or by-laws must be placed in the hands of the secretary-treasurer for approval by the Executive Committee at least two months previous to the annual meeting of this society, and published in the official organ of the society previous to the annual meeting.

2. This constitution may be altered or amended by a two-thirds vote of the members at any regular meeting, provided such amendment has been acted upon as provided for under Section 1, Article VIII.

3. By-Laws, not inconsistent with the constitution may be adopted by a two-thirds vote of the members present at any regular meeting, provided such By-law has been acted upon as provided for under Section 1, Article VIII.

BY-LAWS

ARTICLE I

Duties of the officers and Executive Committee:

1. The president shall:

a. Preside at all meetings of the society, the Research Co-ordinating Committee, and Executive Committee and shall perform the duties usually devolving upon a presiding officer. In the absence of the president the vice-president shall assume these duties.

b. Keep in touch with the local and program chairman of the meeting and make such suggestions as he deems wise. Approve all bills of expense incurred by the various society committees before directing their payment by the secretary-treasurer.

2. The Secretary-treasurer shall:

a. Keep an accurate record of the business meetings of the society, the Executive Committee, and the Research Co-ordinating Committee.

b. Receive and collect membership dues and other moneys due the society, keep accurate account of the same, deposit the same in the name of the society, in a bank approved by the committee, and make all necessary disbursements by voucher checks. He shall make a complete and itemized statement of all receipts and expenditures of the society at the annual meeting.

c. Keep the roster of members with addresses, enroll new members, solicit membership as authorized by the president, and keep an up-to-date mailing list of all eligible members in the state.

d. Provide a thorough and efficient system of registration, including names, title, local and permanent address of all those belonging and those attending the annual meeting.

e. Provide for the printing and distributing of all society printed matter as directed by the Executive Committee.

f. Provide a copy of the minutes, membership list, addresses, committee reports, etc., for the president or committee chairman when requested.

g. Be prepared to submit a detailed account of receipts and disbursements at any regular Executive Committee meeting if so requested.

h. Act as custodian of all papers, records, properties and other material of the society and keep an inventory of the same.

i. Be required to give bond in such sum as the Executive Committee may direct. This bond shall be executed by a responsible guarantee company, the expense to be defrayed by the society.

j. Prepare ballots for the annual election, and keep a record of all those casting ballots.

k. Perform such other duties as properly come under his jurisdiction.

3. The Exhibits Manager shall:

a. Solicit the support and cooperation of manufacturers and business leaders in exhibiting their products at the annual convention.

b. Solicit general educational exhibits from schools in the vicinity of the convention city.

c. Receive and collect fees for exhibit space and remit to the Secretary-treasurer.

d. Solicit an exhibit from each of the Research Committee chairman for each and every convention.

e. Be responsible for the general arrangement of exhibits at the convention.

f. Establish the price or prices of exhibit space, the size, number and type of exhibit booths, etc., subject to the approval of the officers of the society and the Executive Committee.

g. Submit a detailed report to the Secretary-treasurer within three weeks after the close of each convention.

h. Be prepared to submit a report at any Executive Committee meeting if so requested.

i. Mail a list of all registrants, including teaching positions and addresses to each commercial exhibitor represented at the convention as soon as such a list can be prepared, and to any other commercial organization upon payment of the membership fee.

j. Give each commercial exhibitor a membership in the society.

k. Keep an up-to-date mailing list of all desirable manufacturers and business leaders.

4. The Executive Committee shall:

a. Pass on the reports of the Secretary-treasurer and all committees of the society, and authorize the publication of all the material to be distributed in the name of the society.

b. Set up a budget for the year's expenditures not later than January of each year and shall authorize expenditures within this budget.

c. Prepare a report of the activities of the Society for the annual business meeting.

d. As individuals, act as official representatives of the society at the M.E.A. and other meetings.

e. Hold its first meeting within thirty days after the close of the convention.

f. Fill any vacancies in office where that function has not been delegated to the president.

ARTICLE II

DUTIES OF COMMITTEES

1. Research Committees shall prepare all material in accordance with standards prescribed by the Research Co-ordinating Committee, and submit to the Executive Committee for approval before it shall be authorized for publication.

2. The Research Co-ordinating Committee shall consider common objectives, devise the mechanics of organization, supervise and counsel research committees, approve results of, and otherwise facilitate the research program.

3. The Convention Committee shall engage lecturers and speakers, and have entire charge of the general setting up of the program for the annual convention. It must keep within the budget allowed by the Executive Committee and follow its general policies. A report of convention expenses must be presented to the secretary the day before the annual meeting.

4. The Editorial Committee shall have full charge of preparing Society convention reports, research briefs and other material for publication subject to the approval of the Executive Committee.

5. The Auditing Committee shall audit the accounts of the association and submit a signed report at the annual meeting of the society.

6. The Nominating Committee shall recommend at least two candidates for each office to be filled and in each case specify reasons for such nominations. No one shall be eligible to hold office who has not been a member in good standing for the preceding three years.

ARTICLE III

APPROPRIATIONS

1. All bills incurred by any committee for expenses shall be approved by the chairman of that committee before submitting to the president and the secretary-treasurer for approval and payment.

2. Any recommendations for expenditures of funds from the treasury of the society must be referred to the Executive Committee for consideration.

ARTICLE IV

CONDUCT OF ELECTIONS

1. The Nominating Committee shall report during the annual convention at the meeting designated by the Executive Committee. Following this report, the president shall call for nominations from the floor. This report shall include the distribution of printed ballots.

2. Polls shall be open for voting at the secretary's desk from the close of nominations until 9:30 A.M. on the morning of the annual meeting.

3. The secretary or his aids shall deposit the folded secret ballots in a locked ballot box as they are presented. Voters may be challenged to present their membership cards and non-members shall be refused to vote.

4. The secretary or his aids shall keep a record of each member voting.

5. Tellers, appointed by the president at the time of the nomination, shall receive the ballot box from the secretary at the closing of the polls. Ballots shall be counted at once, in the presence of the secretary or his aids.

6. The report of the election shall be made by the tellers at the annual business meeting as provided in By-laws Article V.

ARTICLE V

Order of Business shall be as follows:

	Annual Meeting	Executive Committee
1. Call to order by President	*	*
2. Roll Call		*
3. Minutes of previous meetings	*	
4. Report of Committees		
a. Research Coordinating		*
b. Research		*
c. Program		*
d. Editorial		*
e. Auditing	*	
f. Executive Committee	*	
5. Unfinished Business	*	*
6. New Business	*	*
7. Election of Officers (Report)	*	*
8. Adjournment	*	*

Note: Robert's Rules of Order shall govern points not covered by above.

DUTIES OF THE CONVENTION COMMITTEE
OF THE
MICHIGAN INDUSTRIAL EDUCATION SOCIETY

The following rules have been formulated as a guide to the chairman of the convention committee and his members.

1. The Convention Committee shall be composed of six members; president, vice-president, secretary-treasurer, State Supervisor of Industrial Education, and two other members, one of whom shall be a resident of the convention city. The vice-president shall be chairman of the committees.

2. The president is the supreme power in regard to the program. He will suggest the general theme or policy of the convention program.

3. The chairman, with the approval of his committee, and the consent of the Executive Board, shall arrange for all lecturers and speakers, keeping in mind the varied interests of the membership of the society.

4. The chairman shall endeavor to carry out the

ideas of the president and before making definite engagements with speakers shall secure the approval of the Convention Committee and Executive committee.

5. The resident member of the Convention Committee residing in the convention city shall assume responsibility for the local entertainment features of the program but these are to be approved by the convention committee.

6. The chairman must see that the convention expenses are kept within the budget allowed by the Executive Committee. No expense must be incurred except as itemized below: The budget approved for the city _____, April _____ to _____, 19____, is \$_____.

a. Postage and telegrams (the latter used only in case of emergency).

7. The chairman shall communicate with the Research chairman relative to a plan for the convention. The Research chairman shall act as chairman of round table conferences, in each field of his activity.

8. The chairman shall make a final check-up just prior to going to the press of the program and just prior to the convention, to see that all speakers expect to fill their engagement.

9. The chairman shall, in so far as possible arrange the program according to the plans adopted by the Executive committee in regard to number of speakers, time allowed to each, time allowed for music and entertainment, etc. He shall insist upon speakers keeping within the time allowance. If it seems wise to modify the time limit for any speaker this should be done with the approval of the committee.

10. The chairman shall require that the convention committee member residing in the convention city provide, (1) a bulletin board at the head quarters hotel, with a directory of meeting places, (2) a speaker announcer outside the door of each meeting place, using the following form:

M.I.E.S. Printing Section
John Doe now speaking

(3) A door keeper whose business it will be to change the names on the announcer as the program progresses and (4) appoint sub-committees to take care of local arrangements, (a) banquet, (b) publicity.

11. The chairman must submit to the Secretary-treasurer at least one day prior to the business meeting an estimate of all expenses incurred in the preparation and carrying out of the program. He must, if possible, also submit to the Secretary-treasurer at least one day prior to the business session all expense bills.

12. The chairman shall notify each speaker appearing on the program, that his addresses will be published in the copy of the proceedings and ask him to have ready to turn over to the secretary in typewritten form, a copy of his address as he wishes it to appear in print.

13. The chairman shall furnish the Secretary with a tentative program two months before the date of the convention. He shall furnish a complete detailed program thirty days before the convention.

